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INDIAN CURRENCY PROBLEMS OF THE LAST  
DECADE.

THE currency problems discussed in British India to-day are in many respects similar to those which have been under consideration recently in the United States. Greater security for a large amount of overvalued silver and greater flexibility in the issues of paper have been the conspicuous desiderata in the currency systems of both countries. Moreover, the measures which have been suggested as remedies in the two cases have been planned along somewhat similar lines.

Although the gold sovereign was two years ago made the standard of value in British India, and gold is now the only metal which is unrestrictedly minted and the coins of which circulate at their metallic value, there is as yet but little gold in circulation; and the much overvalued rupee is still the universal medium of payment and the familiar money of account. Apprehension, therefore, is frequently expressed as to the continued maintenance of the terms of exchange now prevailing between the gold

and silver coins. Possible conditions are imagined under which the value of the rupee might fall below its legal rating in terms of shillings and pence, and various additional safeguards have accordingly been suggested in order to strengthen this rating. In India, as in this country, then, one of the problems at present under consideration is how to render the value of the silver coins secure beyond peradventure; and such measures, for example, as those proposed by Representatives Overstreet, Hill, and Levy in the last session of the American Congress, which aimed to strengthen the silver currency by making it redeemable in gold, have had their counterparts in British India.

Another defect in the currency which is common to both countries, but which is of far greater seriousness in India, is its inflexibility and unresponsiveness to variations in commercial needs. The monetary requirements of India fluctuate very widely in volume from season to season and from year to year. The trade of the country is mainly in raw materials and agricultural produce, and business activity varies rapidly over different parts of the country from month to month in correspondence with the harvesting of the different crops. In Western countries such fluctuations in the demand for currency are largely met by an increase or decrease in the use of fiduciary contrivances, but in India there is as yet no general recourse to these arrangements. Banking facilities, as we understand them, are restricted to the great commercial centres; and among the natives payments are seldom effected by means of checks and transfers on bank books. The banks do not enjoy the privilege of issuing notes; the government issues of paper currency are strictly limited; and the silver coins, which are the only currency that circulate freely, cannot be increased in times of stringency by coinage on private account, nor will they be decreased when redundant by export to other countries. We shall see, too, that the situation is aggravated by the existence of an independent

treasury system like that of the United States, which frequently abstracts money from circulation at times when it is most in demand. The need is very urgent, therefore, for some arrangement which will automatically adjust the volume of the circulation to changes in the monetary requirements; and the various plans suggested in India to attain this end are similar to those with which we are familiar in America, such as the abolition of the separate treasury system, the substitution of bank-notes for government paper, and provision for a larger freedom of issue on the part of the banks.

We cannot, however, reach a clear understanding of present currency questions in India without glancing back over the succession of events which has resulted in the present situation.

At the beginning of the nineteenth century there was no uniform measure of value in British India. Silver seems to have been the usual standard over the greater part of the country, with gold coins in concurrent circulation, at rates varying from time to time, according to the price of gold bullion; but in certain parts of Southern India (*e.g.*, Madras) gold appears also to have served as standard. Whatever the currency, whether of gold or silver, the coins differed widely in denomination, weight, and fineness, even within the same regions. An Act of 1793, for instance, specifies no less than twenty-seven varieties of rupees as current in the several districts.\* This confused condition of the currency, involving many losses and much inconvenience in trade, led the East India Company in 1806 to announce its intention of establishing one general system of currency throughout the whole of its possessions in Asia; but it was not until a generation later that the intention was carried out. In 1835 a particular rupee (weighing 180 grs.,  $\frac{1}{16}$  fine) was selected and

\* Robert Chalmers, *A History of Currency in the British Colonies*, p. 337, note.

declared the standard coin for the whole of British India; and this rupee, unaltered either in weight or fineness, has remained the common standard down to the present. The rupee at that time was rated as equal to two English shillings (24*d.*); but, after a career of irregular ups and downs, we find it to-day apparently fixed at one and one-third shillings (16*d.*). In other words, the pound sterling, which was formerly the equivalent of ten rupees, is now exchangeable for fifteen.

The Act of 1835 declared that no gold coin was thereafter to be a legal tender of payment anywhere in India, but at the same time it authorized the minting of a gold piece, known as the "mohur," to be of identical weight and fineness with the silver rupee, and designed to circulate at its metal value. These mohurs circulated then as equal to fifteen rupees, and from 1841 to 1852 were so received at the public treasuries. With the fall in the value of gold, however, which threatened to be serious in the early fifties, the government refused any longer to accept them.

During the fifties and sixties there were frequent movements in the market rate of exchange between gold and silver, which were not without effect upon the trade relations of India with England and other gold-using countries. Various of the Indian Chambers of Commerce accordingly memorialized the government for a gold currency, and the establishment of fixed rates of exchange between the English and Indian coins; and even the government of India itself proposed in 1864 that the sovereign should be made a legal tender\* at the value of ten rupees, and that the government paper should be made

\* It would appear that efforts to make gold a legal tender for a specific amount, so as to establish fixed rates of exchange between the gold and silver coins, had been first made by the East India Company, in Bengal, in 1766; but these early efforts had conspicuously failed, it having been found necessary to re-rate the coins twice within the next five years. Sir James Stewart, *Principles of Money applied to the Coin of Bengal*, 2d edition, 1792, pp. 25-37.



redeemable in either sovereigns or rupees at this rate. At about the same time various English economists (*e.g.*, McCulloch) \* were also advocating the introduction of a gold currency in India, on the ground that it would provide a new market for the increasing supplies of that metal, and so would "counteract that fall in its value which has been so generally apprehended." The imperial government, however, hesitated. Though agreeing that gold might once more be made receivable for public dues, and admitting that further steps towards the adoption of a gold currency were contemplated, the home office believed that the time had not quite yet arrived when it would be advisable to make British gold a legal tender in India.

The opportunity of introducing a gold currency upon these terms was soon lost; for in the next few years the fall in the price of silver began, and the rupee sank rapidly in relation to gold from the level (24*d.*) about which it had oscillated ever since its institution as standard. Occasionally there were temporary revivals, notably at the time of the Sherman Act; but by 1893 exchange had fallen to a little below 15*d.*, and the rupee, in other words, had lost three-eighths of its value in terms of British gold. † The ill effects of this fall in silver upon the finances of the Indian government, one-fourth of whose revenue is used under normal conditions to meet obligations in England; upon the foreign commerce of India, four-fifths of whose sea-borne trade is with gold-standard countries; upon the investment in India of European capital, so essential to that country's developement; upon the incomes of Europeans and European capital employed there,—all these are matters of familiar history.

Until 1892 the Indian government endeavored to remedy the situation by working for the adoption of some

\* *Encyclopedia Britannica*, 8th edition, vol. xviii., article on Precious Metals, p. 473.

† See Appendix, Table I.

sort of an international agreement which would re-elevate the gold price of silver, or, at any rate, would make it more stable. Representatives were sent to the International Conference at Paris in 1881, and to the Brussels Conference in 1892, with this end in view. But, long before the assembling of the delegates on the latter occasion, it had come to be believed by many that nothing in the way of effective relief was to be expected from an international agreement, and the old proposal to change the standard from silver to gold had been revived. Indeed, several months before the opening of the conference the government of India itself had petitioned the home government for permission to close the mints to silver, and to make various arrangements for the introduction of a gold standard, in case the conference failed to arrive at a satisfactory conclusion. These proposals had been referred to a committee of seven distinguished men, under Lord Herschell's presidency; and in the spring of 1893, after the unsuccessful termination of the International Conference, the committee brought in a report which, in the main, was in their favor.

In accordance with the recommendations of the committee, on June 26, 1893, the act was passed definitively closing the Indian mints to the coinage of silver on private account. The government, by the terms of the act, retained, however, the power to coin rupees at its discretion, and, indeed, announced on the same day that it would hold itself ready to give them in exchange for gold, whenever they were required by the public, at the rate of 16*d.* per rupee. This left the mints still open, in a sense, and gave opportunity for the subsequent expansion of the currency. It left the rupee coinage more or less dependent upon the needs of the people, and allayed all fears as to any considerable rise in the rupee exchange. The notification, it will be seen, did not explicitly fix any ratio between the rupees and the English coins, but only

set a maximal limit to its possible rise. The rupees might still — and, as we know, they did — fall considerably below the rating of 16*d.*, but they could not rise above that value so long as the government adhered to the policy announced, of giving rupees for gold on those terms.

The selection of this maximal ratio, though avowedly tentative, was not arbitrary. It was approximately the average of the ratios of the five years preceding and only a little above that prevailing at the time. It involved, therefore, only a very small departure from the *status quo*, and the slightest possible shock to trade and the exchanges. Moreover, it resulted in very convenient terms of exchange between the Indian and the British coins. The sovereign became equivalent to just fifteen rupees, which was precisely the same rate at which the gold mohur used to exchange for rupees; and, singularly enough, the subsidiary coins of the two countries fitted in with each other very neatly. The rupee is subdivided into sixteen annas, and so one anna became equal to one penny and two hundred and forty annas to one pound.

At the same time the government took steps to encourage the actual introduction of a gold currency at this ratio. They were unwilling as yet to make gold a legal tender between individuals; but, for themselves, they offered to accept sovereigns on these terms in payment for all government dues; and they also offered to issue currency notes in exchange for British gold at the same rate.

The Herschell Committee had been judiciously non-committal as to the probable consequences of the closing of the mints. "Exchange might rise suddenly and considerably," they said, or it might "not for a considerable time rise at all," or, indeed, it was possible that "even the existing ratio might not be maintained." \* The closing of the Indian mints, as is well known, was accompanied

\* *Report of the Indian Currency Committee (1892)*, § 149.

in the United States by the reassembling of Congress to repeal the silver-purchase act, and was rapidly followed in Russia by a ukase similarly unfavorable to silver. The price of silver fell swiftly,—fell more than 10*d.* per ounce within the next ten months, fell from an average of about 88*d.* per ounce in May, 1893, to 27*d.* in March, 1894. The rupee, however, rose momentarily in June to its legal rating in terms of gold (16*d.*), and, although it sank considerably below that level in succeeding months, it has maintained a nominal value greatly in excess of its metal value ever since. The rupee touched its lowest point in January, 1895, when it was only accepted as the equivalent of 12½*d.* But even this was more than 2*d.* above its intrinsic value, and after that date the divergence became much greater. While the price of silver, on the average, has scarcely more than held its own subsequently, the price of the rupee has slowly risen again, until in 1898 it once more reached 16*d.* It can rise no higher, because the government offers to give rupees to any amount in exchange for gold at that rate; and for the past three years the rupee exchange has oscillated about this level, although the metal in the rupee has averaged in value but little more than 10*d.*\*

The question of the causes of this rise in the rupee exchange is not one of simple and demonstrable solution, and will probably never be answered to the satisfaction of all. Many have attributed it to a supposed contraction of the currency. There is little reason to believe, it is said, that the hoarding habits of the people changed on account of the closing of the mints; and rupees probably went on disappearing from circulation in this way after that event very much as they had before. Then, too, several important native states adopted the rupee currency after 1893, and they very likely also absorbed a certain amount of the British Indian coins. If, in addi-

\* See Table I. and appended diagram.

tion to this abstraction of rupees in hoards and in the circulation of neighboring states, we take account of the rupees withdrawn by the government during the period (some twenty-five millions in all), and of the rupees which have been lost or melted down, these writers say that we need look no farther: we have here a quite sufficient explanation of the rise in the rupee exchange.

But, on the other hand, along with these influences for contraction there certainly were some counteracting factors. The melting of the rupees and their manufacture into ornaments, which used to withdraw so large a proportion of the coins from circulation, probably ceased with the closure of the mints and the rise of the rupee above its metallic value. The famines of those years, too, unquestionably caused many rupees to emerge from the hoards; for rupees would be brought out under these circumstances rather than ornaments similarly on account of their higher value. Moreover, between 1893 and 1898, the period during which the rupee was rising, two additions of about twenty millions each were made to the circulation by the direct action of the government. First, at the time of the closing of the mints the government took over a considerable stock of silver then held or being imported by the banks, which, when coined, amounted to nearly twenty million rupees; and this was rapidly passed into circulation. Then, again, in 1896, when the maximum limit of uncovered paper currency was raised from eighty to one hundred millions, another twenty million rupees was launched into currency. We may pass over for the present the far greater additions which have been made during the past two years,—the notes issued against gold deposited in London, the silver released from the Indian note reserve by the substitution of gold, and the recently renewed coinage of silver. Confining our attention strictly to the period when the rupee exchange was rising, enough has already been said to show how difficult it is to determine

even whether the money in circulation was increasing or decreasing during the period. Certainly, there is no convincing evidence either of any considerable diminution or of any considerable enlargement in its amount.\*

The really vital question, however, is whether the rise in the rupee was due to a *relative* contraction of the currency. The absolute quantity of money in itself is a matter of no very great importance. What we want to know is whether, taking account of the growth of population, the increase of trade, and all other changes in economic conditions, there was any reduction of the currency during the period, as compared with the requirements for it. Under normal conditions this would not be a difficult matter to determine. If such had been the case, if the rise in the value of the rupee in terms of gold had been due to such a relative contraction, then, as a matter of theory, we should expect to find the fact confirmed by a similar rise in its value in terms of commodities. That is to say, we should expect to find a general fall in prices. Unfortunately, however, we can draw no conclu-

\*Mr. F. C. Harrison, accountant-general of Madras, who has made a special study during many years of the statistics of the mintage of the coins in circulation, said that the currency probably had declined somewhat in volume during the period, that it had contracted from about 1,280 millions in 1893 to about 1,200 millions in 1898. See the *Minutes of Evidence* taken by the Indian Currency Committee, Part I., pp. 85-90, and the *Index and Appendices*, p. 82. For an explanation of Mr. Harrison's method of calculation, see his articles in the *Economic Journal* for December, 1891, June, 1892, March, 1893, and Professor F. Y. Edgeworth's criticisms thereon in the same *Journal* for March, 1812, and March, 1900. See, also, Mr. Harrison's note published in the Supplement to the *Gazette of India* for September 1, 1900.

Mr. W. S. Adie, assistant accountant-general of Burma, after a study of the same statistics, arrived at the conclusion that the rupee circulation had stood as high as 1,300 millions in 1893 and had dwindled to 1,180 or 1,200 millions by 1899. See the *Report of the Indian Paper Currency Department*, § 38, and the appended note, both of which are published in the Supplement to the *Gazette of India* for September 1, 1900.

On the other hand, Mr. J. E. O'Connor, the director-general of statistics to the government of India, and author of the annual official reviews of Indian trade during a period of more than twenty-five years, said: "I have no belief whatever in the general idea that there has been a great contraction of the currency. . . . We have no evidence whatever to support the theory." Indian Currency Committee, *Minutes of Evidence*, Questions 993, 994.

sion one way or the other from the actual price statistics of recent years. Almost the only articles of native production whose prices have been carefully collated are the food grains; and, in general, their movements over brief periods of time can indicate little more than the success or failure of successive harvests. The series of intense famines during 1896, 1897, and 1899, render the price movements of recent years peculiarly abnormal, and make them an extremely unreliable foundation for conclusions as to the expansion or contraction of the currency.\* We can get little light, therefore, on our problem from the study of prices.

That there are many causes other than a contraction of rupees which might have resulted in a rising rate of exchange between rupees and gold no one will deny. This rate of exchange depends primarily upon the demand for gold for foreign shipment, and upon the difficulty which is experienced in obtaining it. Every influence, therefore, serving either to diminish the amount of gold shipments or to enlarge the amount of gold available in the country would tend to raise the gold rating of the rupee. Anything, for example, which rendered more favorable the balance of payments with gold-using countries would either lessen the demand for gold or increase its supply, and so lower its value in exchange for rupees. The large borrowings in London on Indian account † during

\* See, for example, the testimony of Mr. O'Connor before the Indian Currency Committee (1818), *Minutes of Evidence*, Questions 1357-1361, 12143-12144. Consult also the tables and diagrams in the Appendices, pp. 163-171, and compare the answers to Questions 2789-2795.

† The following table shows the increase during the period in the Indian sterling debt to England. Amounts raised in England by private railway and other companies, not guaranteed by the state, are not included.

March 31, 1893 . . . . .	£106,648,767
March 31, 1894 . . . . .	114,113,792
March 31, 1895 . . . . .	116,905,826
March 31, 1896 . . . . .	115,903,732
March 31, 1897 . . . . .	114,883,233
March 31, 1898 . . . . .	128,274,680

(Indian Currency Committee Tables, No. 10.)

these years, the reduction in the Indian import of silver,\* the contraction in the remittances of the Indian government below their normal amount,† — each of these factors has very justly been pointed to as a tendency favoring a rise in the rupee exchange. The constantly increasing output of gold from the Indian mines‡ contributed another tendency in the same direction, which appears to have been regarded by some even as the principal cause of the improvement in exchange.§ We must admit that each of these influences helped the rise of the rupee; and yet we may cling, with some justification, I believe, to the notion that, after all, a contraction in the currency was a very important factor,—not an absolute contraction, for there is no evidence that any such occurred, but a contraction relative to the growing needs of the country. Proof of this belief may be lacking, but there are certain presumptive indications.

\* The average amounts of silver annually imported into India were as follows:—

	Weight in ounces.	Value, Rs.
1888-89 to 1892-93 . . . . .	40,096,167	11,219,088
1893-94 to 1897-98 . . . . .	33,730,155	8,192,155

(Computed from Indian Currency Committee Tables, No. 5.)

† The average annual remittances from India, as shown by the drawings of the secretary of state, were as follows:—

1888-89 to 1892-93 . . . . .	£15,816,344
1893-94 to 1897-98 . . . . .	13,874,603

(Computed from Indian Currency Committee Tables, No. 9, Statement A.)

#### ‡ INDIAN GOLD PRODUCTION. (PRINCIPAL MINES.)

	Ounces.
1893 . . . . .	207,029
1894 . . . . .	209,919
1895 . . . . .	250,114
1896 . . . . .	321,878
1897 . . . . .	380,779
1898 . . . . .	417,124

(Commercial and Financial Chronicle, February 11, 1899.)

§ "Gold is being abundantly mined, and its value in terms of silver and commodities (including a monopoly rupee) falling. I regard the cheapening of gold as the real cause of the improvement in exchange." Unsigned article in the *Economic Journal* for December, 1900, p. 456.



The movement of the rate of discount in the Indian banks during these years has frequently been given an undue significance in this connection. The general tendency of the rate was upward between 1895 and 1898, the years in which the rupee exchange was rising; and the rate rose as high as 12 per cent. in the Presidency Bank of Bengal early in 1898, just when the rupee exchange was approaching its maximum. This indicates very little for our purpose, however; for a high rate of interest only means a shortage of loanable capital, and may result from many other causes than a contraction of the currency.\* As a matter of fact, the Bank of Bengal had charged as much as 12 per cent. several times in the years preceding the closure of the mints, when there was no such question of contraction.† But, on the other hand, while it must be admitted that a high interest charge is in no case evidence of contraction, it is altogether possible that such a stringency in the loan market, though perhaps due primarily to other causes, should be intensified and accentuated by a growing scarcity of the currency; and it is not improbable that the extraordinarily high average of the interest rates in 1897 and 1898 was partially due to this cause.

A more convincing indication that a comparative con-

\* For an explanation of the stringency in the Indian money market during the year 1897-98, see the *Report of the Indian Currency Committee*, §§ 20-23; also, Mr. J. F. O'Connor's *Review of the Trade of India in 1898-99*, pp. 3, 4, and the testimony of Sir James L. Mackay before the Indian Currency Committee, Questions 286, 287, 687, 704-712, 754, 777, etc.

† The following are the maximal and average rates of discount demanded by the Bank of Bengal during the years under consideration. It will be seen that both in 1889 and in 1890 a rate as high as 12 per cent. was asked.

	Maximum.	Average.		Maximum.	Average.
1889 . . .	12 per cent.	7.0 per cent.	1894 . . .	10 per cent.	8.3 per cent.
1890 . . .	11 " "	5.2 " "	1895 . . .	7 " "	4.3 " "
1891 . . .	4 " "	3.1 " "	1896 . . .	10 " "	5.7 " "
1892 . . .	5 " "	3.5 " "	1897 . . .	10 " "	7.9 " "
1893 . . .	7 " "	4.9 " "	1898 . . .	12 " "	8.0 " "

(Indian Currency Commission, Appendices 13-15.)

traction did take place after 1893 is presented by the coinage statistics of the period. We know that during the twenty-five years preceding the closure of the mints the annual coinage of rupees from bar silver had averaged more than sixty-six millions, and that during the last decade of unrestricted coinage the annual average was above eighty-four millions. Even if we make a very large allowance for the reappearance of hoarded rupees after 1893, this certainly indicates a distinct reduction in the annual additions to the currency during the years when the rupee was rising. There is no evidence of any corresponding diminution in the growth of monetary needs during the same years. Indeed, there are indications that the demand for rupees was actually enlarging at a more rapid rate than usual. In addition to the increasing requirements of population and of trade, there was an extraordinary drain of rupees "to the interior of the country for the purposes of famine relief, for the purposes of military operations on the frontier, and for the purpose of railway construction." \* It would appear, then, that the currency was not increasing as rapidly as formerly, although the demand for it was increasing more rapidly; and, if this be true, it would seem to imply, although the conclusion is not unavoidable, that a relative reduction in the currency had been taking place.

Such a reduction, we can see, would have tended to raise the value of the rupee in terms of gold as well as in exchange for ordinary commodities. But, as it would be obviously impossible to estimate the extent of this currency contraction, so it would be equally impossible to measure the degree of its influence upon the rupee exchange. We cannot even ascertain the relative importance of contraction as compared with the other factors which have been

\* Mr. O'Connor attributes the rise in exchange primarily to this diversion of rupees from the commercial centres to the interior of the country. Indian Currency Committee, *Minutes of Evidence*, Question 989. See also Mr. O'Connor's *Review of the Trade of India in 1898-99*, pp. 3, 4.

mentioned. We simply know that these various causes were operating, but there is no possible way of dividing the total rise in the rupee exchange among them.

The story of more recent currency legislation in India can be told in a few words. The Indian government after 1893 did not vacillate with regard to the policy then adopted. When asked in the autumn of 1897, at the behest of the Wolcott commission, if they were willing to reopen their mints to the free coinage of silver in case of a similar agreement on the part of certain other countries, they expressed their "unanimous and decided opinion" that such a procedure would be "most unwise"; and early in the following year, when the rupee was approaching very near to the maximum value of 16*d.*, they petitioned the home government for further legislation which would render definitive the policy initiated in 1893, and would complete the establishment of gold as standard. The whole question of Indian currency reform was then once more submitted by the home government to a committee of distinguished English officials and financiers, this time under the leadership of Sir Henry H. Fowler. They collected a wide range of testimony, examined as many as forty-nine witnesses, and only reported their conclusions in July, 1899,\* after more than a year's deliberation. The committee concurred in the opinion of the Indian government that the mints should remain closed to the unrestricted coinage of silver, and that a gold standard should be adopted without delay; † and to

\* The report, with Minutes of Evidence, Appendices, etc., including in all more than eight hundred pages, is to be found in the following British documents: C. 9037; C. 9222; C. 9376; C. 9390.

† Several witnesses of high authority, however, who testified before the committee, were seriously opposed to the policy that was finally adopted. Sir John Lubbock, Sir Robert Giffen, Sir Forbes Adam, Lord Aldenham, Mr. Robert Barclay, and others urged that India should abandon all idea of a gold standard; and a number of them — notably, Sir Robert Giffen — desired that the Indian mints should be reopened at once to the free coinage of silver.

this end they recommended (1) that the British sovereign be given full legal tender power in India, and (2) that the Indian mints be thrown open to its unrestricted coinage. These recommendations were acceptable to both governments, and were shortly afterwards translated into laws. The act making gold a legal tender was promulgated on September 15, 1899; and preparations were soon thereafter undertaken for the coinage of gold sovereigns in the mint at Bombay.\*

Both gold and silver are, therefore, now a legal tender in India; but gold is really the standard, for it alone is freely coined, and it alone circulates at its metallic value. The silver rupees still form the usual currency, and they have full liberative power; but, as we have seen, they circulate at much more than their actual value, being accepted as equivalent for gold at the ratio in units of weight of about 22 to 1, while the market ratio of silver to gold is as 32 to 1. Silver, therefore, has ceased to serve as standard; and the Indian currency system of to-day may be described as that of a "limping" gold standard similar to the systems of France, Germany, Holland, and the United States.

Before turning to consider the unsolved monetary problems which India has still to face, some account must also be given of the Indian paper currency. The present system of currency notes was instituted in 1861, when the privilege of issue was withdrawn from the chartered banks of India, and conferred upon a specially organized Government Department of Public Issue, which was modelled on the general lines of the Issue Department of the Bank of England. This government department is only allowed to issue notes in exchange for coin or bullion; and it is obliged to retain the coin and bullion as a covering for all notes, except that a certain fixed amount,

\* It appears, however, that no gold coins have yet (April, 1901) been struck at the Indian mints, the coinage of sovereigns for India still taking place in the London and Australian mints.

as in England, can be invested in government securities. The maximal limit for the uncovered issue, which is supposed to represent the amount of notes that will always be outstanding, was placed in 1861 at four crores, or forty million rupees; but it has been raised from time to time, until now a fiduciary issue of 100 millions is allowed.\* According to the provisions of the Act of 1861, notes could be issued against gold as well as against silver; but never until within the past two years has gold figured to any considerable extent in the currency reserves. Between 1865 and 1876 a very small amount of paper — an average of perhaps one-eighth of 1 per cent. of the total note issue — was based upon gold; but thereafter, while the ratio between the metals was rising, gold ceased to be used at all as a basis for the notes, and during twenty-two years no gold whatever was recorded in the reserves. The notification of June 26, 1893, as we have seen, provided for the issue of currency notes in exchange for British gold at the rate of fifteen rupees for a sovereign (*i.e.*, a rupee for 16*d.*); and early in 1898, when the market value of the rupee had risen to that level, gold began once more to be presented to the treasury in exchange for notes. It will be remembered that the government had also pledged itself in 1893 to give rupees for gold to any amount at the same rate. This was certain to accelerate the substitution of gold for silver in the government reserve, as soon as the rupee rose to the pre-

\*The notes are issued at present by government commissioners in eight different districts, four "circles" and four "sub-circles," and are a legal tender only within the circle where they were issued. They are, however, current to some extent in the other circles as well; for they are everywhere received, at the offices of the post and of the railways, and can be tendered at any government bureau. In denomination they range all the way from 5 rupees to 10,000, the larger notes being commonly used for bank reserves.

The maximum of the fiduciary issue has been increased as follows:—

1861	40 millions
1870	60 "
1890	80 "
1896	100 "

scribed rate. But, further, in January, 1898, the government took another step in the same direction. "In order to afford a means of relief to the severe stringency" then prevailing, an act was passed providing for the issue of notes in India upon the basis of gold deposited in London, without requiring its actual transmission to India. In pursuance of this act the home government announced that, until further notice, it would sell telegraphic transfers on India at a rate not exceeding 1s. 4½d. for the rupee. In a word, the Indian government had offered in 1893 to give rupee notes or silver rupees to any amount in exchange for gold at the rate of fifteen rupees for a sovereign; and now, in 1898, it offered even to issue the notes against gold deposited in London.

The actual consequences of these provisions appear scarcely to have been foreseen by any one. It was everywhere regarded as desirable, in order to keep the rupee exchange at a steady level of 16d., that the government accumulate some sort of a gold reserve, which could be drawn upon whenever exchange tended to fall below that level. To this end the Indian officials in their despatch of March 3, 1898, had even proposed to secure gold by borrowing from abroad,—a proposition which was firmly negatived by the home government. With the improvement in exchange, it now seemed probable that the government would automatically obtain possession of a moderate amount of gold in return for its notes and silver. Few, however, had apprehended a deluge of the yellow metal. Gold made its first appearance in the currency reserve modestly enough early in 1898. Throughout that year there was no noteworthy increase in its volume; and at the close, on December 31, 1898, the gold in the reserve amounted only to about 3½ millions, while the silver reached a total above 148 millions. It was with the turning of the year that an unprecedented and unexpected movement began.\* The rupee exchange

\* See Appendix, Table II.

rose for a time somewhat above 16*d.*, and gold immediately commenced to displace the silver in the reserve on a very large scale. By the end of 1899 the proportions of gold and silver held in the reserve had become almost equal; and a few months later the stock of gold amounted to almost four times as much as the holdings of silver. On the last day of April, 1900, nearly 142 million rupees were held in gold and only 37 millions in silver. Throughout the year 1899 the demand for drafts on India had continued very strong in England. It exceeded the total amount of council bills which the government had to offer to cover the home charges. In the end, early in November, 1899, it even exceeded the available cash in the Indian treasury; and the government found it necessary to set aside a portion of the gold received in London for drafts on India as a reserve against the currency paid out in India to meet these drafts. In other words, the government finally began to issue notes upon the basis of gold held in London, as had been permitted since January, 1898. During the last week of October, 1899, about £100,000 in gold — the equivalent of 1½ million rupees — was set aside, or "ear-marked," in the Bank of England to cover currency issued in India; and this amount had increased by February, 1900, to £1,500,000, — a sum sufficient to meet an issue of 22½ million rupees.\*

The transformation in the content of the note reserve which had taken place within the lapse of a single year was really startling. In the beginning of January, 1899, the gold held as reserve against the note circulation amounted only to about one-thirtieth of the silver; but in April, 1900, as we have seen, counting the gold "ear-marked" in London, it aggregated a total nearly four times that of silver.

\* Notes were issued in India against gold in London only during the period of ten months, from November, 1899, to September, 1900. The amount of gold so "ear-marked" in the Bank of England remained £1,500,000 until May, 1900, then gradually decreased, until the last instalment was withdrawn late in August.

Gold, in fact, had displaced silver to such an extent as actually to prove an embarrassment; and, in the words of the finance minister, the government had been "nearly swamped" by it. The total issue of notes now amounted to almost 280 millions, while the stock of silver had dwindled to 37 millions. It was a serious question whether the treasury could much longer meet the demand for rupees in exchange for gold and notes. The government had already felt itself obliged to take steps to check further additions to its holdings of gold and to increase its holdings of silver. On January 10, 1900, the home office had withdrawn its offer to sell telegraphic transfers on India at a rate not exceeding 1s. 4 $\frac{1}{2}$ d., and raised its selling terms for a time to a rate as high as 1s. 4 $\frac{3}{4}$ d., which was practically prohibitive except for remitters who had no choice.\* In February the government began to employ a part of its stock of gold in the buying of silver for coinage. For this purpose it used its balance of 1 $\frac{1}{2}$  millions in the Bank of England, and also remitted from India £3,500,000. These were the first silver purchases made since 1893; but by September, when the last of the gold "ear-marked" in the Bank of England had been released, a stock of silver had been bought sufficient to coin eighty-five million rupees, or an amount somewhat in excess of the average annual coinage during the decade before the closure of the mint. In the months which have succeeded, additional purchases of silver have been made, sufficient to bring the total by the end of March, 1901, to 52 million ounces, or the equivalent of 140 million rupees.†

\*For an explanation of this action see *East India Financial Statement for 1900-1901*, §§ 32, 33.

†The total of rupees coined on government account during the fiscal year 1900-1901 reached an amount in excess of 130 millions. It has been decided that the profit on coinage due to the difference between the actual cost of the rupee and its issue price in the form of currency shall be set apart as a sort of safety fund, to be used in case of necessity for the maintenance of the rupee exchange. The total profits for the year amounted to £2,900,000, which was remitted to London for investment in consols. *Economist*, April 20, 1901, p. 578.



With these large additions to the silver currency, the proportion of silver in the note reserve has materially improved; and in March, for the first time in fifteen months, the silver holdings were equal to the holdings of gold. On March 31, 1901, the reserves consisted of 112 millions in silver and 86 millions in gold.

Meanwhile various efforts were made to get some of the government's stock of gold into circulation. It was decided that £5,000,000 was a sufficient reserve for all probable contingencies; and, as a tentative measure, the proposal was made to pay out any gold in excess of that amount. Instructions were sent to the more important currency offices to tender gold to all presenters of notes, and only to give rupees when they were preferred. Later the post-offices in the Presidency towns and Rangoon were instructed to give gold in payment of money orders, and the three Presidency banks were requested to issue sovereigns in making payments on government account.\* The salaries of many officials thus came to be paid in gold, and government checks came to be cashed in the same metal. These efforts appear as yet to have only met with a very moderate degree of success. The issues of sovereigns were "not inconsiderable,"† and were accepted, at least in the Presidency towns, without much friction or complaint; but a large proportion of them rapidly "returned to government through the currency offices and the Presidency banks." Recipients of sovereigns always had the privilege of exchanging them for rupees at the currency offices, and many appear to have done so. Thus throughout the year 1900, notwithstanding the varied and persistent endeavors of the government to get rid of gold,

\* For an account of the measures actually taken to get gold into circulation, see the *Report of the Indian Currency Department* for the year ending March 31, 1900; also, the statement of Mr. Clinton Dawkins, the finance minister, in introducing the Indian budget, in the *East India Financial Statement* for 1900-1901, § 31.

† *Report of the Indian Paper Currency Department* for 1899-1900, § 11, published as a Supplement to the *Gazette of India* for September 1, 1900.

the quantity of that metal in the note reserves was only very gradually reduced. Up to the present (April, 1901), as far as can be calculated, about £3,000,000 in gold has been gotten into so-called circulation; but there appears to be some difference of opinion as to whether much that has been so taken is really doing the work of money. Part, it is said, "has been hoarded, and part used in the arts; and part (a small part) has circulated for a very short time. People find it convenient for railway journeys, and in the large cities it is to some extent used in paying bills; but the people have not yet got used to using gold as money."\*

Looking back over the two years 1899 and 1900, it will be seen that during that time the circulation of India absorbed no less than 200 millions of rupees. Approximately, 100 millions of rupees were released from the currency reserve by the substitution of gold, and another 100 million rupees were coined from the newly purchased silver. In other words, the average increase in the rupee circulation during the past two years has considerably exceeded the average increase during the years of free coinage.

The explanations offered for the flow of gold to India,† for its influx in the currency reserve, and for the expansion of the silver currency, are in many respects akin to the explanations given for the rise in the rupee exchange, which we considered earlier in the paper. In fact, it was the continued rise of the exchange and its final mounting

\* This is the statement of Mr. A. F. Cox, the head commissioner of the paper currency department, in a letter dated April 15, 1901.

† The net imports of gold into India during the past six years have been as follows:—

1885-96 . . . . .	£1,683,968
1896-97 . . . . .	1,527,358
1897-98 . . . . .	3,572,336
1898-99 . . . . .	4,335,805
1899-1900 . . . . .	6,233,733
1900-1901 . . . . .	561,423

above the prescribed maximum\* which induced these movements of the two metals; and, just as opinions differed with regard to the causes of the rise in the rupee to 16*d.*, so they have also varied in interpreting its rise above that level. On the one hand, the situation is ascribed to the growing scarcity of rupees, taken in connection with an increasing demand for them up-country for the relief of the famine and the plague, and an unusual need for them in Burma, because of the exceptionally heavy rice crop. On the other hand, it is attributed to favorable trade balances with gold-using countries, and to the heavy inflow of capital due to the greater confidence felt by European capitalists in the maintenance of the exchange.† The facts at present available do not justify a discrimination between these two sets of influences; but it is probable here, as in the former case, that both have co-operated to produce the actual situation. The rise of the rupee up to and, finally, above 16*d.* has been due, it would appear, to the concurrence of a number of circumstances, of which an important one has been the contraction of the rupee currency relative to the requirements for it. The experience of the Indian rupee has thus in many respects been similar to that of the silver gulden in Holland after the closing of the mints in 1873, to that of the Austrian florin after the suspension of silver coinage in 1878, and to that of the Russian rouble after the closure of the mints to silver in 1898.

The adoption of the gold standard in India was accompanied on many sides by very gloomy predictions,‡ yet

\* Consult Table II. and appended diagram.

† See, for example, the budget speech of Mr. Clinton Dawkins, the finance minister, in the *East India Financial Statement for 1900-1901*, § 30.

See also the *Statist* for February, 1900.

‡ Mr. Moreton Frewen, in a letter published in the *New York Herald* of August 4, 1899, declared that "the whole scheme is preposterous, and must break down. . . . This no intelligent student of the currency questions for a moment."

for more than three years the course of the exchanges has realized the most sanguine of expectations. The rate of exchange between rupees and gold has remained unaltered in India, and rupee quotations in England have not varied outside of the shipping points from 16*d*. The question remains, nevertheless, whether this stability is permanent, whether all danger of a reversal of the ratio is past. It has been suggested that the silver coins, which have been flowing to the interior in recent years on account of the famine and the plague and railway building and frontier defence, may some time flow back in such large quantities as to go to a discount,\* or that some time there may occur a general failure of the crops, by reason of drought or war, or otherwise, and that this might result in a general lack of exports, and so involve a depreciation of the rupee, on account of the necessity of securing gold to settle the foreign balances.† It is often urged that further legislation is therefore necessary, and it has been claimed by some that the silver rupee will never be thoroughly secure until it is made convertible into gold. Many of the witnesses before the Indian Currency Committee developed plans in this direction. Mr. A. M. Lindsay, Mr. Leonard Darwin, and Mr. H. L. Raphael, all proposed, in one way or another, to make the rupee convertible into drafts on a sterling fund located in London. Lord Farrer, Lord Rothschild, and others even favored the absolute convertibility of the rupee and its direct redemption in gold by the Indian government,—a proposal which was the prototype of the currency bills introduced in the American House of Representatives during the last session of Congress.

Any such scheme, obliging the government to give gold

\* This is suggested among others by Sir Robert Giffen in the *Economic Journal* for June, 1900, p. 283.

† See the testimony before the Indian Currency Committee of Mr. Leonard Courtney (Question 13012); Sir J. L. Mackay (Questions 101-104); Mr. A. Arthur (Questions 1876-1883); and Lord Farrer (Question 12203).

for rupees, would evidently involve an immense and very serious financial risk to the government,—a risk of a sort that no other government has ever assumed; and the Currency Committee of 1898-99 plainly disapproved of the idea. They expressed the opinion that the value of the silver currency could be adequately maintained in India, as elsewhere, by the simpler expedient of limiting its quantity; and, as regards convertibility, they contented themselves with the vague recommendation that the government hold its gold “freely available for foreign remittances, whenever the exchange falls below specie point, . . . under such conditions as the circumstances of the time may render desirable.” Whether this policy of limited issue and optional convertibility is adequate to insure the rupee against loss, experience alone can show. It is the policy which has been thus far successfully pursued in many other countries,—notably, France, the United States, Germany, and Holland, in each of which large amounts of silver of unlimited tender power are current, but without the government being under any legal obligation to give gold for it on demand. The situation in India to-day, it must be admitted, is somewhat less favorable to the maintenance of the parity than in these other countries, because there is as yet very little gold actually in circulation, and the whole outflow of gold necessary to check a sinking exchange must therefore come from the reserves of the government and of the banks. But, as more and more gold is gotten into the currency, the supply will be greater upon which to rely in case the exchanges should tend to fall; and the rupee is destined to become increasingly secure. This is unquestionably one of the reasons why the Indian government has been doing everything in its power during the last two years to secure a more general use of gold as money throughout the country. And for the same reason various other arrangements looking to this end, such as the payment of “country” money orders

in gold, the withdrawal of the five rupee and the ten rupee notes, and the requirement that certain taxes be paid partly or wholly in gold, have been proposed.

It was suggested by Mr. E. A. Hambro, in a report subsidiary to that of the committee of 1899,—and has been several times suggested since then by government officials,—that a strong centralized bank would greatly assist in the maintenance of the exchanges. “Working under proper currency regulations, such a bank would be likely to carry them out, . . . in a more effective way, and in a manner more in harmony with the trade wants of the country, than any government department, however well administered.” \* If the gold reserves of the country were concentrated in one great national bank, as they are in Germany and France and England, it is claimed that fluctuations in the exchanges and the inflow and outflow of the metal might be controlled to a considerable extent. In abnormal times such an institution could help to steady the rupee value by borrowing in the London money market, which the Presidency banks are at present legally debarred from doing, or by selling exchange on its agents in other countries at lower rates than those dictated simply by considerations of temporary individual profit. It might also counteract tendencies leading to an unfavorable exchange by raising its rate of discount, or it might check the outflow of gold by charging a premium, as in the Bank of France, on bars and foreign coin. Mr. Hambro’s recommendation of a central bank, though approved by the Indian government, which showed a disposition at first to precipitate its adoption, was very coldly received by the three Presidency banks which it was proposed to amalgamate,† and as a consequence is still hanging fire.

The two attributes most commonly predicated of an

\* *Report of the Indian Currency Committee, 1899, p. 22.*

† For a discussion of some of the objections to the scheme, see the *Economic Journal* for December, 1900, p. 461, and the *Economist* for 1900, pp. 35, 113, and 1272.

ideal currency are security and elasticity. We have seen in what respects the Indian currency is deficient in the former quality, and have taken a cursory glance at the various plans proposed to remedy the defect. It remains now to consider how far the currency system meets the second test. India has been described as "essentially a country of seasonal trade." Her products are in the main agricultural,—rice, cotton, wheat, opium, jute, seeds, tea, and the like,—and her monetary demands consequently vary with the moving of these crops. She has her busy seasons and her dull seasons, and this means that she stands in peculiar need of a flexible currency. From what has already been said, we are now in a position to see how far the Indian monetary system is responsive to these fluctuations in the demand.

As for the coinage system, it probably presents a greater measure of elasticity than is commonly supposed. The provision under which the government is bound to give rupees for gold at the rate of 16*d.* per rupee leads to an expansion of the currency in any period of prolonged stringency, through the importation of gold. And, although these rupees are not available for foreign export, because of their monopoly value, they will be automatically contracted when excessive so long as the government maintains the policy of giving gold for notes to meet any genuine demand for foreign remittances. The coinage system, therefore, according to present arrangements, can never become permanently contracted or permanently redundant. The adjustment of its quantity to changes in commercial needs will be more direct, and possibly somewhat more rapid, when gold has actually gotten into circulation. With gold current in India, in the event of scarcity supplies of the metal will probably be more readily attracted from abroad, because gold can be made immediately available for currency purposes, and because there will be less question about the possibility of getting it back without loss when

desired. In the event of redundancy, too, gold will flow more freely abroad, both for the latter reason and because its acquisition will not depend alone upon the condition and policy of the government treasury. In other words, as gold is worked into circulation in India, the monetary system will become somewhat more elastic as well as more secure.

At best, however, the expansion and contraction of the currency through the inflow and outflow of coin is a slow, expensive, and very imperfect method of meeting fluctuation in local conditions of trade, especially in the case of a country like India, which is so far removed from the world's financial centres. One turns naturally to the banking system and to the paper currency in looking for the elastic factor which will respond easily to frequent temporary changes in local currency needs.

Banking in India, except in the great commercial centres, seems to have retained a very primitive character, and does not furnish any such substitute for money as the check and deposit system of English and American banks. There is a great amount of *money* lending, but only small use of *credit*, in the stricter sense of the word. It is said that every native of India who possesses money is a money lender, but there are few institutions which create and lend credit and conduct a business that avoids the use of money like that of the banks in Anglo-Saxon communities.\* Loans and deposits alike originate in cash transfers, and the deposits are generally on time and seldom subject to withdrawal by check upon demand. Even in the Bank of Bengal, "as a rule, deposits are lodged for six or twelve months." Plainly, under such conditions, "banking," no matter how far extended, offers little real addition to the means of payment in a community, and fails to furnish a flexible mechanism of exchange such as we are accustomed to associate with the banking system.

\*See the testimony of Mr. A. M. Lindsay, who has been in the service of the Bank of Bengal for twenty-nine years. Indian Currency Committee, *Minutes of Evidence*, Questions 3611-3617.



Nor are any self-adjusting elements contributed by the paper currency of India. The notes have always been unpopular with the natives. They do not circulate at all outside of the Presidency towns and other large trade centres,\* and they are consequently quite unavailable to meet the trade demands of the interior for the moving of the crops. The question as to how the notes may be rendered more popular is one of those most actively discussed to-day by Indian officials. It has been suggested that they would be more willingly accepted if the government were to undertake to encash them at any of its two hundred and sixty odd treasuries, the assumption being that, the more readily such a currency will be taken back, the more easily it can be gotten out. The proposal, however, to cash notes at any bureau over an area as great as that of India involves one obviously serious difficulty,—that of foreseeing at two hundred and sixty widely scattered places just what the demands will be and at just which bureaus they will arise. It seems scarcely probable that the government will see fit to assume such a burdensome obligation. But, even were the difficulty surmounted and paper money were to become universally acceptable, the rigidity of the currency system would be but little affected, unless some still more radical change were made in the conditions of issue. At present the paper issues are inflexibly restricted in amount. Since 1861 the banks have not had the right to issue notes, and the notes of the government can only be increased as coin is withdrawn from circulation. The only exception to this statement is furnished by the provisions of the Gold Note Act of 1898, which allow the issue of notes, not only against gold withdrawn from circulation, but also against deposits of gold in London. Such issues, however, are not made upon fixed terms, and so are virtually at the option of the government, which may raise the price

\* Indian Currency Committee, Questions 4163, 12638.

of issue at any time to such a point as to be practically prohibitive. Several writers have suggested that this method of issue would be more effective if the terms were definite and invariable. It has been repeatedly proposed, too, that the provisions of the act should be extended to the leading Australian cities, so that an exchange bank could deposit gold in Melbourne or Sydney or Perth as well as in London, and receive therefor rupee notes in India.

The situation is rendered more difficult by the fact that the Indian government maintains a separate treasury system which quite frequently, as in the United States, withdraws considerable sums from circulation, and locks them up at the very time when the country's need for currency is most acute.\* Taxes grow more productive and the treasury surplus inevitably tends to expand when business is active; and both tend to contract when trade is dull, which means that the expansions and contractions in the volume of the treasury's inactive reserves are directly contrary to the changes in the needs of trade. In the spring, which is the busy season and the time when the country's currency demand is greater, the government is likely to hold larger balances than in the monsoon, which is the dull season, although it ought to follow exactly the opposite programme. It is true that the officials do what they can to relieve any stringency for which the system is responsible, and endeavor to place the government balances at the disposal of the public. During the busy season the Indian Council always enlarges its offers of bills and telegraphic transfers; and the market, therefore, if willing to pay the price demanded, can avail itself of the

\* For an account of the way in which the government funds are distributed between its reserve treasuries in Calcutta, Madras, and Bombay, and the two hundred and sixty other government treasuries, on the one hand, and the Presidency banks, with their branches, on the other, and for an explanation of the reasons for the establishment of the independent treasury system in India, consult the evidence taken before the Indian Currency Committee, Questions 5665-5673, 5478-5481, and the *Economic Journal* for December, 1900, p. 462.

greater part of the surplus. The balances are made available to the public also as a means of transferring money from one part of India to another.\* The government, having resources distributed among more than two hundred and sixty different treasury bureaus in all parts of the country, is in a position to render great assistance in the making of remittances. By substituting a reserve in the one place for a reserve in the other, it can effect transfers from Presidency to Presidency and from district to district; and it does this for banks and the public at large so far as it conveniently can.† Notwithstanding, however, all of these arrangements to utilize the balances, the money accumulated by the government cannot be as serviceable for currency purposes as it would be if left in circulation or in the banks; and it must be evident that the rigidity of the Indian currency is aggravated to a considerable extent on account of this separate treasury system.

The most pressing problem, then, which those in charge of the Indian currency have before them to-day is how to render the system more flexible and more responsive to changing commercial needs. Whether the practical difficulties in the way of a great central bank can be overcome

\* "The place where the cash or currency note reserve shall be stored is not declared by statute; and, in consequence, much of the remittance business of the government and commerce is affected by the manipulation of this reserve. Thus suppose government has in its treasury balances at A a lakh of rupees which it wants at Calcutta, the treasurer at A looks it up and credits a lakh to the currency reserve, and the currency department at Calcutta pays over a lakh to the Calcutta treasury. So, again, if A wants its lakh back, any treasury which has a lakh to spare transfers it in its books from treasury to currency, and A releases its own lakh for its own use by crediting treasury and debiting currency. These operations are often on a large scale." *Economic Journal*, December 1, 1900, p. 464.

† "Trade demands for coin arise at different times in the year at different Provinces. Thus from December to March Burma wants about Rs 80,000,000 to finance the rice crop of that country, and coin has to be moved there for that purpose. About April a demand arises in the Punjab and the North-west Provinces of India, and coin has to be sent there. The cost of moving the coin is recovered at present from traders by charging a premium on bills payable at the busy trade centres." Letter of Mr. A. F. Cox, head commissioner of the paper currency.

—and a partial solution of the problem may be found in the establishment of a Bank of India which will take charge of the government balances, and will manage the paper currency under less rigorous restrictions—or whether relief will be found in some provision which will allow the government itself a larger freedom in its note issue, it is impossible at present writing to predict. In any case, the difficulties will never be wholly resolved until banking habits have further developed, and the notes have obtained a wider acceptance.

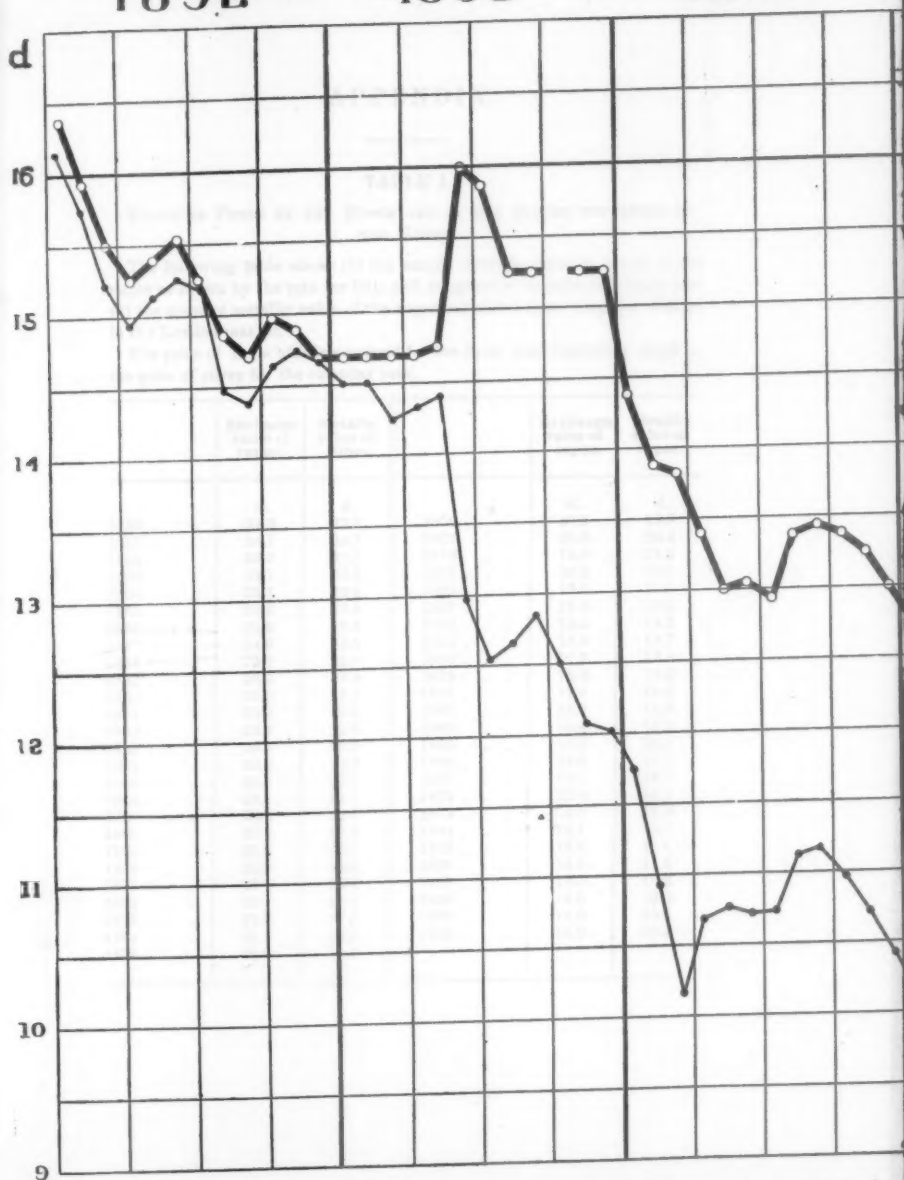
A. PIATT ANDREW.

HARVARD UNIVERSITY.

1892

1893

1894



The upper line represents the exchange value of the rupee as averaged m

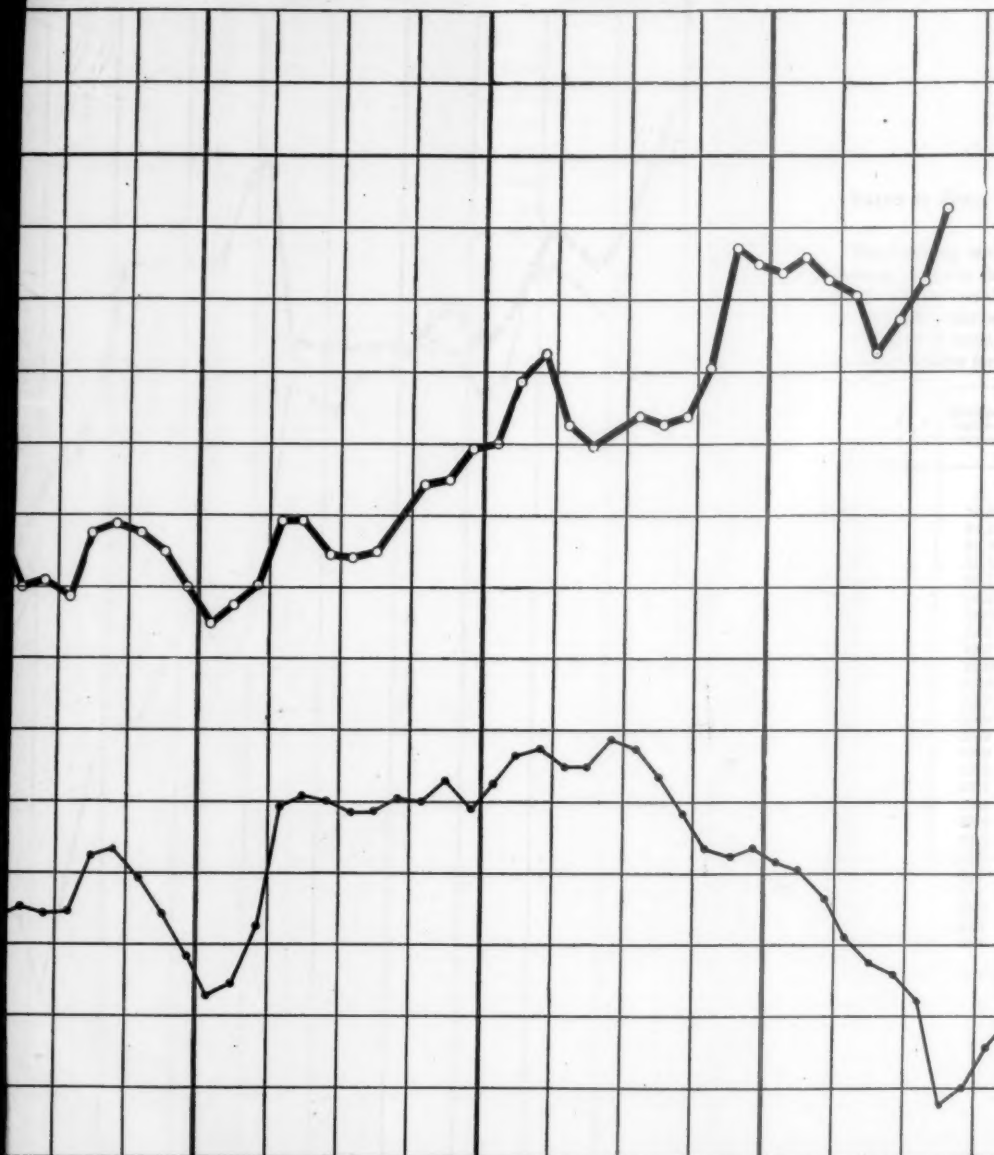
# THE METALLIC AND EXCHANGE VALUE OF THE RUPEE IN

1894

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1896

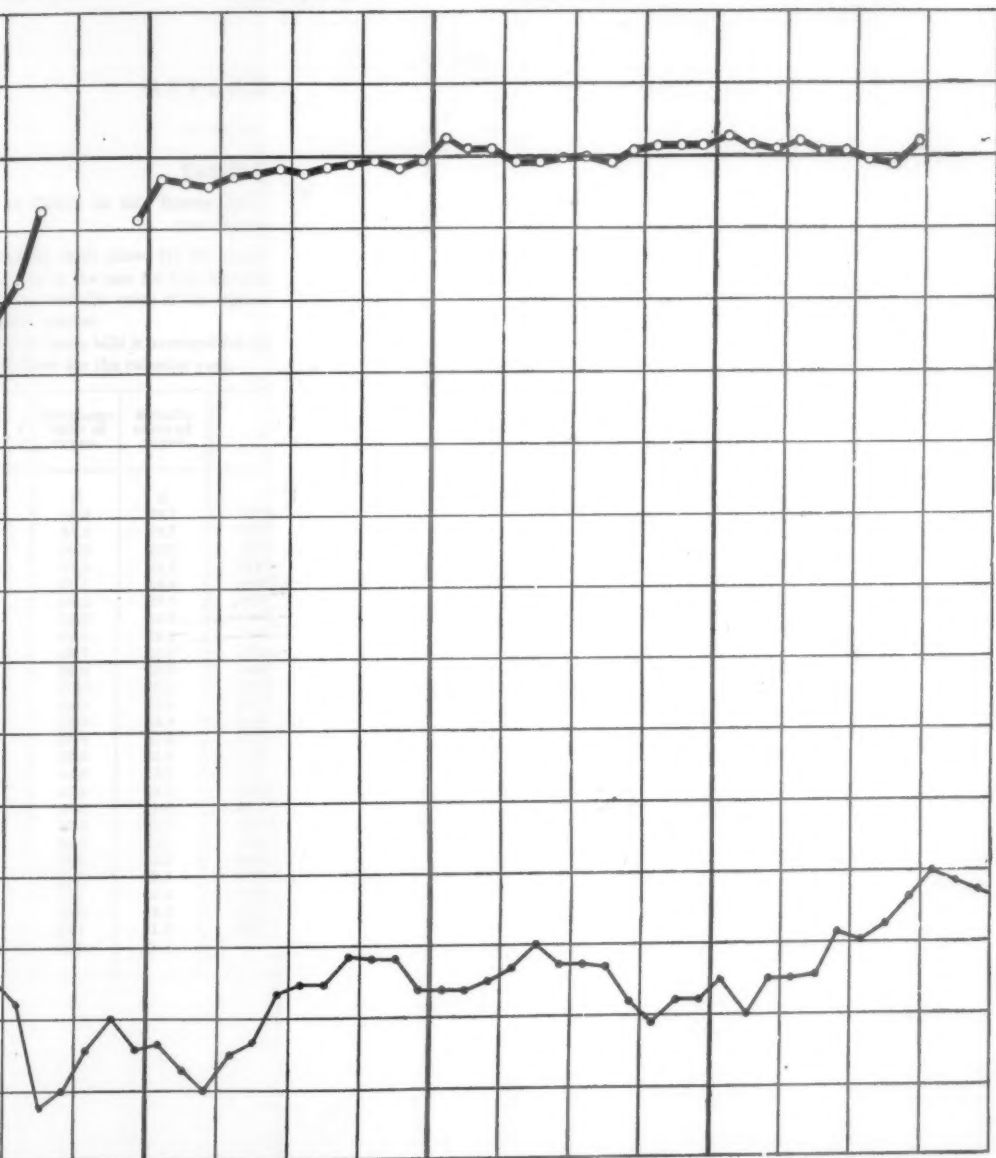
1897



pee as averaged month by month from the London price of India council bills. The lower line r

PEE IN PENCE.

97 1898 1899 1900



Lower line represents its metallic value as calculated from the London price of silver.





## APPENDIX.

TABLE I.

VALUE IN PENCE OF THE RUPEE AND OF THE SILVER CONTAINED IN THE RUPEE.

The following table shows (1) the annual average price in pence of the rupee as shown by the rate for bills and telegraphic transfers on India and (2) the average metallic value of the rupee calculated from the price of silver in the London market.

The price of India bills is averaged for the fiscal year beginning April 1, the price of silver for the calendar year.

	Exchange value of rupee.	Metallic value of rupee.		Exchange value of rupee.	Metallic value of rupee.
	<i>d.</i>	<i>d.</i>		<i>d.</i>	<i>d.</i>
1850 . . .	24.3	22.7	1876 . . .	20.5	19.6
1851 . . .	24.1	22.7	1877 . . .	20.8	20.4
1852 . . .	23.9	22.5	1878 . . .	19.8	19.5
1853 . . .	24.1	22.8	1879 . . .	20.0	19.0
1854 . . .	23.1	22.8	1880 . . .	19.9	19.4
1855 . . .	24.2	22.8	1881 . . .	19.9	19.2
1856 . . .	24.2	22.8	1882 . . .	19.5	19.3
1857 . . .	24.6	22.9	1883 . . .	19.5	18.7
1858 . . .	25.7	22.8	1884 . . .	19.3	18.8
1859 . . .	26.0	23.0	1885 . . .	18.2	18.0
1860 . . .	26.0	22.9	1886 . . .	17.4	16.8
1861 . . .	23.9	22.6	1887 . . .	16.9	16.6
1862 . . .	23.9	22.8	1888 . . .	16.4	15.9
1863 . . .	23.9	22.8	1889 . . .	16.5	15.8
1864 . . .	23.9	22.8	1890 . . .	18.0	17.7
1865 . . .	23.8	22.7	1891 . . .	16.7	16.7
1866 . . .	23.1	22.7	1892 . . .	15.0	14.8
1867 . . .	23.2	22.5	1893 . . .	14.5	13.2
1868 . . .	23.2	22.5	1894 . . .	13.1	10.7
1869 . . .	23.3	22.5	1895 . . .	13.6	11.1
1870 . . .	22.5	22.5	1896 . . .	14.4	11.5
1871 . . .	23.1	22.5	1897 . . .	15.3	10.2
1872 . . .	22.7	22.4	1898 . . .	16.0	10.0
1873 . . .	22.3	22.0	1899 . . .	16.0	10.2
1874 . . .	22.1	21.6	1900 . . .	16.0	10.4
1875 . . .	21.6	21.1			

TABLE II.  
INDIAN PAPER CURRENCY.

This table shows the amount of the note circulation and the composition of the reserve on the last day of each month, and the average monthly rate for telegraphic transfers on India during recent years (in millions of rupees).

	RESERVE HELD AGAINST THE NOTE CIRCULATION.				Gross circula- tion.	Average monthly rate for telegraphic transfers.
	Silver.	Gold.	Gold in London.	Gov't. secur- ities.		
March, 1896 . .	179	Nil	Nil	80	259	14.38
March, 1897 . .	137	"	"	100	237	15.03
March, 1898 . .	145	2	"	100	247	15.78
December, 1898 .	148	3	"	100	252	16.00
1899						
January . .	152	5	Nil	100	257	16.12
February . .	146	17	"	100	262	16.06
March . .	151	30	"	100	282	16.02
April . .	146	34	"	100	280	16.00
May . .	148	34	"	100	282	15.96
June . .	156	35	"	100	291	15.97
July . .	157	35	"	100	293	15.98
August . .	149	38	"	100	288	15.97
September . .	137	39	"	100	276	16.05
October . .	123	52	1.5	100	277	16.12
November . .	101	61	11.2	100	273	16.11
December . .	83	68	11.2	100	263	16.07
1900						
January . .	68	81	22.5	100	272	16.17
February . .	49	101	22.5	100	273	16.09
March . .	52	112	22.5	100	287	16.02
April . .	37	119	22.5	100	279	16.03
May . .	47	124	15.	100	286	16.03
June . .	69	127	7.5	100	304	16.03
July . .	70	130	7.5	100	308	16.00
August . .	58	126	Nil	100	284	15.97
September . .	53	130	"	100	283	16.03
October . .	64	119	"	100	283	None sold
November . .	69	114	"	100	283	" "
December . .	67	109	4.5	100	281	16.12
1901						
January . .	76	117	Nil	100	294	16.09
February . .	76	105	"	100	281	16.03
March . .	112	86	"	100	298	15.97

## THE GENESIS OF THE UNITED STATES STEEL CORPORATION.

THE consolidations in the steel industry of the Middle West, which were organized from 1898 to 1900, were generally regarded as industrial experiments. Their capitalization was based upon the predictions of their promoters that the experiments would be successful. Those predictions much time would be necessary to justify. Meanwhile the steel trusts were exposed to great and evident dangers. Competition from new enterprises was everywhere threatened. The future relations between the enterprises themselves were by no means certain to be harmonious. The profits of the promoters and underwriters were known to be large. In short, the position of the steel trusts was essentially speculative,—a fact conclusively proven by the sale of their stocks at low values. If the values of these securities were to be raised to an investment level and kept at that height, these doubts and apprehensions must be removed from the mind of the investor. This could be done in no other way than by the passing of dividends and the building up of a large reserve.

The object of every corporate management should be to make its shares worth at all times their face value. If its position becomes so strong as to raise the value of its shares to a level which returns to the buyer no more than the investment rate of interest; if, in other words, a stock paying 6 per cent. dividends commands an average price of 150,—then the acme of prudent management has been reached. In order that this strong position may be attained, it is of first importance that profits should be deferred, and that the corporation should always pay out less than it earns, in order that an adequate surplus re-

serve should be accumulated. The surplus reserve of a corporation is that part of its net earnings which is set aside before dividends are declared. The object of its accumulation is to provide a fund out of the large earnings of prosperity from which, in times of decreased earnings, sufficient can be drawn to maintain the dividend rate. The form of the reserve may be either cash, securities, or investment in betterments and extensions. The availability of a reserve in the first two forms, to make good a decline of earning power, is evident. The value for the same purpose of capital construction out of earnings lies in the fact that, in times of depression, improvements and repairs can be postponed because of work done in former years. A larger percentage of net earnings can in this way, at such periods, be paid out in dividends, and the rate of dividend can be maintained. The effect of an adequate surplus reserve is thus to guarantee the dividend rate, and to cause the securities of the corporation so protected to sell for prices equal to or greater than their face value.

The amount of surplus reserve required to give this standing to a corporation varies with the nature of the business and naturally bears a certain proportion to capitalization.\* This proportion should be increased with the irregularity of earnings or of expenses. The business of transportation is held to be the most stable of all enterprises. The proportion of surplus reserve demanded by the investors in a railway corporation, therefore, represents the minimum requirements. Measuring from the railway as a standard, the proportion of reserve to capitalization rises with the instability of the business and the irregularity of the demand for its products. The reserves of those corporations which manufacture the necessities of life represent the minimum requirements

\*In the balance sheet of a well-managed corporation, quick assets will nearly equal current liabilities. The surplus reserve is therefore properly to be compared with the capital liabilities.

for this class. For example, the demand for sugar, flour, and oil varies but little; and the methods and processes involved do not require such constant change and improvement as in the case of industries which produce silk goods, laces, patent leather, or perfumeries,—commodities in which the popular taste is constantly changing. Hence these industries have to provide every year large sums for machinery to meet the new requirements. The proportion of surplus reserve which is required by the investor is necessarily larger in the case of the second class of corporations than with those which produce the staple commodities.

Iron and steel, although staple commodities, nevertheless, from the standpoint of the surplus reserve which is necessary to sustain the dividend rate of corporations engaged in their production, belong to the class of commodities whose demand is fitful and uncertain, and whose methods of production are constantly being revolutionized. The surplus reserve of a steel company should, therefore, be larger in proportion to its average earning power than the reserve of a railway corporation, if its securities are to sell at investment prices. Only by the accumulation of a large proportion of surplus earnings in a form in which they can be got at on short notice, can a corporation engaged in the manufacture of steel guarantee to the investor that, if he buys its securities, his sleep shall be sweet. European manufacturers recognize this necessity. They are extremely cautious in the payment of dividends, and their depreciation accounts are generally large.\* The conservatism of this policy is the more striking in its contrast with another practice

\*The *Iron Age* of February 17, 1898, says: "A study of the reports of English and Continental industrial undertakings reveals that very large sums are annually written off from gross profits for depreciation of property, plant, patent rights, etc., this course being in some countries made compulsory by law, and that in good years very considerable amounts are transferred to reserve funds, nor are, in a good many cases, outlays for improvements

which prevails abroad, particularly in England, of charging all railway betterments which result in increased earnings to capital account, and paying for such improvements by the sale of stocks or bonds, the entire net earning being ordinarily distributed to stockholders. This contrast between the policy of foreign railways and of foreign manufacturing corporations confirms the conclusion already reached,—that unstable demand implies larger reserves, if an investment position is to be maintained. A large surplus reserve is of peculiar value when earnings are suddenly threatened by competition. During the brief interval when the conflict is raging, this storehouse can be drawn upon to sustain the dividend rate; and the corporation thus strengthened can sail into the safe harbor of a pool or combination with its credit unimpaired and its financial reputation intact, while a few passed dividends might have inflicted a damage upon its reputation which a long period of subsequent good conduct might have difficulty in repairing. The American Sugar Refining Company, for example, has been able to beat off so many attacks without reducing, until recently, the rate of dividend upon its common stock, primarily because its directors have set aside a reserve of 20 per cent. out of the earnings of monopoly with which to make good the losses of competition.

The accumulation of a large surplus reserve by a new form of corporation is peculiarly essential during the first stages of its existence, if its shares are ever to command high prices. The new enterprise has its reputation to make. A certain amount of speculative promotion has usually attended its foundation. Its shares have in the first instance been sold at low prices, mainly to brokers,

charged to capital account or represented by an enlargement of the funded or floating debt. They are very frequently taken from current earnings or drawn from special contingent funds. It is astounding how heavily gross profits are drawn upon, notably by Continental companies, before dividends are distributed to stockholders."

on speculative orders. Conservative buyers hold aloof and await the development of its policy, desiring to know if the business is to be managed for the stockholders or for the stock market, and if the controlling interest proposes to stand by the corporation or sell it out to the public at the earliest opportunity. This scrutiny is especially patient and searching if the capitalization of the company is regarded as excessive. The presumption is against the corporation thus circumstanced being able to pay regular dividends, and the establishment of a secured position is peculiarly difficult. The surest, and indeed the only, way for a new corporation to attain an investment position is to resolutely adhere to the policy of reserve accumulation, and to refuse to pay dividends until its ability to pay dividends is unquestioned. This method of salvation may be tedious, but it is certain. No matter how inflated the capitalization, no matter how threatening the danger of competition, no matter how unstable the demand for the product, the steady accumulation of earnings into surplus reserve will in time build a solid foundation of tangible assets, upon which, it may be slowly, but surely, conservative and honest management may rear a structure of investment value. The regeneration of the Midvale Steel Company is a case in point. This company manufactures steel tires, projectiles, heavy steel forgings, and guns at Nicetown, Pennsylvania. In 1887 its affairs had become much involved and its earning power greatly reduced, partly because of mismanagement of the plant, and partly also from mismanagement of the finances, dividends having been too large for the requirements of surplus reserve. In that year, interests represented by Mr. Charles Harrah purchased a majority of the stock. Under the management of Mr. Harrah, in spite of severe pressure from the minority interest, no dividends were paid for ten years, the entire earnings being invested in the improvement and enlargement of the plant,

and a large surplus being in this way accumulated. Beginning with 1897, as a result of this policy, while the company has continued to set aside large sums for improvement out of the earnings of each year, a very large per cent. dividend has been declared. At the present time, the financial standing of the Midvale Steel Company is of the best; and if its shares were to be listed on the stock exchange, they would command investment prices. The storage reservoir of surplus reserve is now so large as to warrant the conclusion that, although the earnings of the company may rise and fall with the tide of demand, its rate of dividend can be maintained.

As already remarked, the steel trusts were in a position essentially experimental and speculative. It would seem to have been the plain duty of the management to have passed dividends and squeezed out the water in the capitalization of their companies by the accumulation of large surplus reserves. More especially was such a conservative policy required when the extraordinary profits of the steel trade during 1899-1900 are considered.\* The interests in control of the steel trusts, however, rejected a conservative policy; and all the companies paid the regular dividends on their preferred stocks from the date of their organization to January, 1901. The Federal Steel, American Steel and Wire, and National Tube Companies, in addition to dividends on their preferred stocks paid a good return on the common. The combined dividends of the Federal Steel, American Steel and Wire, National Tube, American Bridge, National Steel, American Tin Plate, American Steel Hoop, and American Sheet Steel Companies from their several dates of organization to January

\*"Recent events have caused much discussion in financial circles of the wisdom or unwisdom of declaring dividends on the stocks of the newly created iron and steel consolidations. . . . It will be better for them and for their stockholders who are investors to accumulate a handsome surplus, so that the dull times which are sure to come in the future may not catch them financially unprepared. The bigger the corporation, the greater is the amount of hard cash needed when a pinch comes." *Iron Age*, July 6, 1899.



1, 1901, amounted to \$29,666,248.50.\* The explanation of these large dividends is to be found in the nature of the securities. The shares of the consolidations were divided into preferred and common stock. All of the preferred stocks included the cumulative feature, which guaranteed to the purchaser that passed dividends would be made good before anything was paid on the common stock. This cumulative provision had been inserted by reason of the greater security which it carried with it. Preferred stocks which are cumulative as to earnings, and which, in the event of liquidation, constitute a preferred claim to assets, are hardly inferior to mortgage bonds and are superior to ordinary debentures. The owners of plants were more willing to receive such securities in exchange for their properties than if the promoter had offered only one kind of stock for all purposes; and, in order to secure that general assent which was indispensable to universal control, and therefore essential to the attractiveness of their monopoly propositions, the promoters had provided, in the case of every consolidation in the steel trade, for two classes of stock, cumulative preferred and common. As long as both classes of stock remained in the hands of speculators, and while earnings continued large, this cumulative feature was no obstacle to the sale of the common stock. Indeed, from the standpoint of a speculator, the necessity of paying dividends on the preferred stock was an assurance that something might be done for the common. In the long run, it is true, the value of the common stock would probably have been destroyed by the accumu-

\* "All dividends on the preferred stocks were at the rate of 7 per cent., except Federal Steel preferred, which paid 6 per cent. During 1900 American Steel and Wire, beginning with April 2, paid quarterly dividends on the common stock of 7 per cent. During 1900 Federal Steel common paid 1½ per cent. on January 20 and 2½ per cent. on March 20. National Tube common in 1900 paid 1½ per cent. on August 15 and November 15, \$2,400,000 being set aside out of the earnings of this company to provide for dividends on the common stock in 1901. (*Supplement to Iron Age*, December 27, 1900, *Iron and Steel Consolidations*.)"

lation of back dividends on the preferred; but during the past two years, net earnings have been adequate to the payment of preferred dividends, and the common stock has not suffered. This cumulative feature, however, although a valuable aid to speculative promotion, was a serious obstacle to the accumulation of surplus reserve. It was impossible for the steel trusts to decrease their liabilities by the passing of preferred dividends, because the passed dividends remained alive as deferred claims to future earnings. It is true that the directors might, with perfect safety to the corporation, have allowed the preferred claims to accumulate to any amount. The back dividends need never be paid, and an adequate surplus could in this way be gathered for future dividend payments on the preferred stock. But the morality of such a course, in view of the existence of an amount of common stock equal in par value to the preferred, which had been purchased in good faith by large numbers of people, would have been doubtful. The directors could not in fairness deliberately extinguish the value of the common stock by accumulating back dividends on the preferred. If this result followed from causes outside their control, they could not be blamed. But the adoption of a policy of surplus accumulation, however justified when considered by itself, the certain outcome of which would be to make the payments of dividends on the common stock only a remote possibility, would have rendered them morally, if not legally, liable to the charge of conspiracy, and could probably have been stopped by injunction. No matter how necessary the passing of their early dividends and accumulation of large reserves by the steel trusts may be judged to have been, so far as the preferred stock was concerned, in view of the cumulative provisions included in the contract with this class of stockholders, it was impossible.

The payment of dividends on the common stock was

less imperative; but here also there is much to be said in justification of the course pursued. The promoters had made promises that common stock dividends would be paid. The earnings of the corporations were apparently large. The preferred stockholders were receiving their dividends, and to the holders of common stock it seemed unreasonable and unjust that, in such prosperous times, a discrimination should be made in favor of the preferred stock. The reputation of the management of many of the industrial combinations was seriously injured by their failure to redeem their promises of dividends on the common stock. It is not at all to the discredit of the steel trusts that they made every effort to treat both classes of stockholders alike. It is true that the payment of large dividends was in line with the advantage which would accrue to promoters and underwriters from the sale of their stock-holdings. It is also true that the payment of dividends was a direct appeal to the speculative demand, and was opposed to the permanent interests of the corporations. Considerations such as these have been made the basis of censure of the interests in control of the steel trusts. They have been accused of mismanaging the affairs of the corporations in the attempt to sell their stocks; of unloading their own shares upon a credulous public improperly influenced by their false representations of earning power; and of draining the resources of their properties in an unscrupulous attempt to sustain the value of their watered stock. These charges may be well founded in a few cases, such, for example, as that of the management of the American Steel and Wire Company; but, in general, there is no basis for them. It might indeed happen that, even if conditions had permitted the accumulation of surplus reserve, stock market considerations would have interfered with the adoption of a conservative policy; but, as matters actually stood with the companies, there was little discretion left to the directors.

They must pay dividends on the preferred stock or else repudiate their promises to the common stockholders, and the payment of dividends on one class of securities made it very difficult to refuse payment on the other. As a matter of policy, all the steel trusts were looking toward the early payment of regular dividends on their common stock.

Although the policy of dividend payment was necessary in view of the charter provisions of the companies, this necessity only throws into sharper relief the unwisdom of those who framed those charters with their separation of stock into two classes and their cumulative reservations,—provisions which were opposed to the accumulation of necessary reserves, and which worked, therefore, directly against the permanent interests of the corporations. No censure is too strong for a policy which binds the directors hand and foot in the disposition of earnings, and prevents them, no matter how well disposed they may be, from safeguarding their properties by the investment of surplus earnings against the inevitable losses of fluctuating demand, of perennial competition and changes in the location and process of industry.\* Cumulative preferred stock is a double-faced security. It is in reality a bond sailing under false colors, calling for an excessive return, and injuring, by its unreasonable claims, the junior security united with it. It is a makeshift, adopted by promoters to make sure of universal assent to their proposals. It has long since been banished from railway financiering, and its recrudescence in the industrial charters is a step backward in financial methods. It condemns securities to a speculative position, and it will undoubtedly be abandoned in the coming era of industrial reorganization.

\*In the case of the National Tube Company the charter authorized the accumulation of a surplus only "after the payment of all cumulative dividends on the preferred stock and a dividend of seven per centum for each and every fiscal year on the common stock."

The pursuit of this policy of dividend payment found the steel trusts at the close of 1900 in a position which invited attack. The small amount of their surplus reserve was in striking contrast with their gigantic profits, out of which, if the corporations had been properly organized, large reserves could have been accumulated. All the "water" of combination still remained in their systems. But little of the shadow of "anticipated profits" had been replaced by the substance of actual earning power. The following table presents the surplus reserves of six of the corporations which have united to form the United States Steel Corporation, at the dates of their last financial statements: \*—

Name of Company.	Capital stock.	Bonded debt.	Surplus reserve.	Per cent. of surplus to capitalization.
Federal Steel . . . .	\$99,745,200.00	\$34,538,000.00	\$4,579,641.95	3.4
American Steel and Wire, . . . .	90,000,000.00	—	10,062,530.00	9
National Tube . . . .	80,000,000.00	—	8,678,000.00	10.8
National Steel . . . .	59,000,000.00	4,471,000.00	3,706,390.77	5.8
American Tin Plate . . . .	46,325,000.00	270,000.00	2,613,426.15	5.8
American Steel Hoop . . . .	33,000,000.00	—	3,046,896.45	9.2
	\$408,070,200.00	\$39,279,000.00	\$32,686,885.32	7†

The insufficiency of this proportion of reserve to the total capitalization of the corporations, and the weakness of the guarantee that dividends would at all times be paid on their stocks, may be more clearly perceived when the reserves of the steel trusts are compared with the reserves of the best railway corporations. In 1900 the Pennsylvania Railroad carried a surplus liability account amounting to 15.8 per cent. of its stock and bond capitalization.

\* *Iron Age Supplement*, December 27, 1900. The financial statement of the American Sheet Steel Company has not yet been issued.

† Average.

The surplus account of the Chicago, Burlington & Quincy amounted to 15 per cent. of its capitalization; of the Chicago & Alton, 29 per cent.; and of the New York, New Haven & Hartford, 15.3 per cent.\* It is to be remembered that a railway should not be required to carry so large a reserve as a manufacturing corporation. The 7 per cent. average surplus of the steel trusts is, therefore, much smaller in relation to the reserves of well-managed railway corporations than would appear from a comparison of these percentages. Not only were the surplus reserves of the steel trusts inadequate on their face, but they would be turned into deficits by a proper valuation of the assets of these corporations. If we are to assume that the surplus reserves set down in their balance sheets were actually in existence, we must also assume that their \$408,065,200 of capital liabilities was represented by corresponding values of capital and current assets,—an assumption which the most ardent defender of the consolidations would have difficulty in making. It is well known, and, in fact, has been often conceded by promoters, that the preferred stock represents the capitalized value of the average earning power of the constituent plants in separation, and that the common stock represents the capitalization of the "economies of combination" plus such working capital as was provided by underwriters. In other words, the preferred stock represented value in existence, and the common stock value in prospect. But a balance sheet is not properly concerned with the problematical. It should deal only with the actual. And, when we consider that \$215,484,000, or 53 per cent., out of the total stock capitalization of \$408,065,000, was common stock, whose value

\*In computing surplus accounts, all liabilities were included which in reality count as assets; *e.g.*, stocks and bonds held in sinking fund, unexpended construction account, and the like. Not all of these resources were available to pay dividends; but, on the other hand, much larger sums have been invested by these roads in capital construction and charged to operating expenses, increasing, in this way, the reserve against decreased profits.

was yet to be demonstrated, the security offered to an investor in the steel stocks by a surplus reserve of \$32,686,000 can be estimated at its true value as considerably less than nothing. These balance sheets, in reality, showed a deficit much larger than their apparent surplus. Such was the result of the policy of liberal dividend payments. After two years of high prices and large profits, the financial position of the steel trusts was but little better than at the outset of their careers.

I would not be understood to assert that the depreciation and betterment accounts of the consolidations had been entirely neglected. Large sums had been spent upon the properties, chiefly upon blast furnaces and steel plants,\* and mainly out of their working capitals. The inadequacy of these expenditures only appears when they are compared with the requirements left unsatisfied, which are indicated by the deficiency of surplus reserve. The directors did all in their power to build up the properties placed in their care. With one exception, and that a doubtful exception, there is no evidence to show that the business of the steel trusts was not honestly and ably conducted. The claims of extortion in prices I believe to be largely unfounded, primarily because such claims assume a stupidity on the part of the management with which their worst enemies would have no right to charge them. Whatever could be done to improve the properties was thoroughly accomplished. Considerable economies were effected; and, in particular, the selling methods were so revised as to greatly increase earning power. The policy of the management in every direction but one was a distinct advance over the former methods of the trade. But in that one exception lay the root of the whole matter. The policy of dividend payment and small reserves was, in reference to the financial position

\* "Nearly every one of them is using its large working capital for modernizing and improving plant." *Iron Age* of June 15, 1899.



of the steel trusts, the dead fly in the ointment. The safety and stability of the consolidations were sacrificed to the unreasonable claims of their securities.

The effect of this policy had been to unfit the consolidations to withstand competition. With inadequate surplus reserves and with high speculative values established for their shares, any reduction of the earnings of the steel trusts was to be feared by their stockholders as a calamity from which there could be no recovery. Such a competition, invited by the policy of the consolidations, confronted them at the beginning of the present year. The origin and nature of this threatened competition will now be considered.

The manufacturing companies which were originally merged into the United States Steel Corporation may be divided, on the basis of their products, into two classes. The Carnegie Steel Company, the Federal Steel Company, and the National Steel Company were large producers of steel billets, ingots, bars, plates, and slabs,—products not yet in their final form, and constituting the materials for other branches of the iron and steel industry. The second group, including the National Tube, American Steel and Wire, American Tin Plate, American Steel Hoop, and American Sheet Steel Companies were, as their titles indicate, producers of finished steel goods. They obtained most of their materials from the primary producers of steel, and converted them into wire, pipes, tin plate, sheets, cotton ties, and structural material. These two groups of companies, from their location and from the nature of their products, had large dealings together. The Federal Steel Company furnished the Western plants of the American Steel and Wire Company with most of their wire rods, and furnished steel billets to the Ohio plants of the National Tube and American Bridge Companies. The Carnegie Steel Company found its principal market among the finishing mills of the Pittsburg dis-



trict, including representatives of all the members of the second group of producers. The National Steel Company supplied a portion of the demands of the Tin Plate, Sheet Steel, and Steel Hoop Companies, whose financial control was identical with its own. Between these companies, until the fall of 1900, there was no reason for competition. The mills of the Carnegie Company in Pittsburg were five hundred miles distant from the principal plants of the Federal Steel Company in Chicago. The National Steel Company, although its mills were, properly speaking, within the Pittsburg district, was not yet strong enough to come into serious conflict with the Carnegie Steel Company. As for the finishing companies, their products were so entirely distinct as to afford no ground for competition. So long as the active demand for steel, which had begun in the winter of 1898-99, should continue, there seemed to be little danger of conflict. Every company was fully occupied, and had no need to go outside its own province to keep its mills running.

The harmony of interests among the various companies, however, was unstable, depending, as it did, upon a restriction of each producer within his own field. If, for any reason, the primary producers should enter the lines of finished material, or if the finishing companies should either attempt independence by producing their own pig iron and steel or should invade the territory of their fellows, a serious competition would immediately result. The productive capacity of the different interests was so large that successful invasion by any one of them of a field hitherto controlled by others would mean serious injury to the original occupants. The *modus vivendi* of the iron and steel trade was, therefore, a condition of unstable equilibrium.\*

\* *Iron Age*, December 9, 1899. . . "Presumably, the National Steel, Federal Steel, and Carnegie Companies are going to keep out of the wire trade so long as their billets, and, in the case of the Federal, also their rods, are consumed in due proportion by the American Steel and Wire Company; and pre-

With the reaction in the steel market which began in the spring of 1900 and continued until November of that year, it became evident that the trade must adjust itself to a smaller margin of profits; and the conflicting forces, which had been held in abeyance during the season of prosperity, became alarmingly active and threateningly evident. The stock capitalization of the recently formed consolidations was based upon the large profits of 1899. If dividends were to be continued during periods of reduced demand, every effort must be made to strengthen the position of the companies by reducing expenses. In no other way could this improvement be so readily made as by securing the largest possible measure of independence in the field of raw materials.

In 1882 the Carnegie Steel Company (then Carnegie, Phipps & Co.) had inaugurated a policy whose object was to control all the factors which contributed to the production of steel, from the ore and coal in the ground to the steel billet and the steel rail. The purchase of a controlling interest in the stock of the H. C. Frick Coke Company, the largest owner of coal lands and the largest producer of coke in the Connellsville region, insured to Carnegie, Phipps & Co., besides a majority share in the earnings from the sale of coke in the open market, a supply of coke at prices so close to the cost of production as in later years to be a matter of legal complaint from the minority stockholders.\* In 1899 the Frick Coke Company owned fully two-thirds of the coal still remaining in the Connellsville region. The Carnegie Company also leased 98,000 acres of natural gas land in Western Pennsylvania, and purchased valuable limestone quarries in the Pittsburgh district, securing by these several purchases an independent supply of fuel and fluxing mate-

sumably, so long as the National Steel secures a satisfactory outlet for its billets, bars, and slabs to the steel and wire and other large consumers, it will in turn keep out of the steel-rail business."

\* *Iron Age*, March 1, 1900.

rial, and adding to the earnings of their steel mills the profits on the production of these materials. The Carnegie Company was also active in obtaining control of its ore supply and its transportation facilities. By the purchase in 1896 of a five-sixths interest in the stock of the Oliver Iron Mining Company, which controlled large ore deposits in the Gogebic and Marquette ranges,—holdings which have since been greatly increased,—and by a fifty year contract made in 1897 with the Rockefeller iron mining and transportation companies, by which the Carnegie Company agreed to pay a royalty of \$1.05 per ton for a yearly supply of 1,500,000 tons of soft ore delivered on shipboard, and a further maximum payment of 80 cents per ton for the transportation of this ore to the lower lake ports, the Carnegie Company secured an abundant supply of both hard and soft ores at prices which were not only more stable than those of the open market, but which were lower than the prices paid by outside companies. The Carnegie Company also purchased a controlling interest in the Pittsburg Steamship Company, which owned in 1900 11 steamships and 2 tug-boats, with 6 additional steamers under construction. It also secured control of the Pittsburg, Bessemer & Lake Erie Railroad, extending from Conneaut, Ohio, where large docks were built and ore-handling machinery installed, to the Carnegie Mills at Duquesne. This railroad was reballasted with cinder from the blast furnaces, and relaid with 100-pound rails. The equipment was replaced by the first steel cars used in the United States, and by the heaviest engines. Through these several improvements the cost of transportation was reduced to 1 mill per ton mile, the lowest cost with one exception\* of any railroad in the world. The ownership of an ore fleet made the Carnegie Company independent of the wide fluctuations in lake rates, and their control of the

\* The Duluth, Mesaba & Northern, controlled by the Rockefellers.

railroad gave them transportation at cost; for the Pittsburgh, Bessemer & Lake Erie Railroad until last year had paid no dividends.\* By the close of 1897, the Carnegie Company was almost completely self-sufficient in all the factors of production. The profits which competitors added to their costs were added to its earnings; and the possession of these advantages, along with the admirable equipment of its furnaces and mills, gave to the Carnegie Company the foremost position in the iron and steel trade of the United States, if not in the world.†

The lessons of this example were not lost upon the leaders in the iron and steel consolidations of 1898 and 1899. No sooner were the new companies fairly upon their feet, and had realized the necessity of greater economy, than they began a movement which looked toward the attainment of an independence in raw materials similar to that which the Carnegie Company had already achieved. This independence, it should be observed, had been in every case but one—the National Tube Company‡—provided for in the original constitution of the companies; and the certain realization of this independence had been urged by the promoters as a most important advantage which the new companies would enjoy. The Federal Steel Company included in its list of properties the Minnesota Iron Company, which controlled 150,000 acres of ore land in Minnesota, and was the largest producer of hard ore on the five ranges. The Federal Steel Company further controlled the Duluth &

\* *Commercial and Financial Chronicle*, January 19, 1901, p. 137.

† It is to be noted that a similar policy of independence in the matter of fuel and iron ore had also been carried out at this time (1897) by the Cambria Steel Company (Jones & Laughlin), the Lackawanna Steel Company, and the Pennsylvania Steel Company; but none of these companies carried it to such profitable lengths as did the Carnegie Company.

‡ *Iron Age*, June 1, 1899. "Aside from an interest in the Mahoning mine, on the Mesaba range, held by the National Tube Works Company, none of the concerns own ore property. We understand, however, that arrangements for an ore and coke supply for a long series of years have been recently completed."

Iron Range Railroad, which hauled the product of the Minnesota Iron Company, and the Chicago, Lake Shore & Eastern and Elgin, Joliet & Eastern Railway Companies, owning 346 miles of road in Illinois, and furnishing an independent connection between the various plants of the Federal Steel Company in the Chicago district. The Federal Steel Company also included among its holdings the property of the Minnesota Steamship Company, consisting of twelve steel steamers and ten barges, besides valuable dock property on the upper and the lower lakes. This company subsequently acquired a small area of coal land—1,620 acres—in the Connellsville district, with 1,100 acres of inferior coal in adjoining districts and in West Virginia. The ore supply and the transportation facilities of the Federal Steel Company were not greatly inferior to those of the Carnegie Company, although its supply of Connellsville coking coal was not adequate to its future needs. As before remarked, the location of the Federal Steel Company was such as to separate its main plants by so great a distance from those of the Carnegie Company as to make serious competition between them unlikely, except in times of severe depression. The two companies had no large dealings together: one was supreme in the West, and the other in the East.

The American Steel and Wire Company, however,—a large customer of the Federal Steel Company in the West, and of the Carnegie Steel Company in the Pittsburg district,—followed the example of the larger organizations. It acquired 2,000 acres of Connellsville coal, and ore properties, with an annual output of 916,000 tons. Some of the directors of the American Steel and Wire Company also owned the American Steamship Company, with a fleet of twelve ore steamers, which were afterwards transferred to the Steel and Wire Company. On the basis of these advantages, the American Steel and Wire Company proposed to build a large steel plant at Milwaukee, which

would supply raw material to its Western mills, and in the Pittsburg district, began the installation on Neville's Island, in the Monongahela River, below Pittsburg, of a complete system of production from the ore and coke to wire, wire nails, and springs.\* The National Steel Company had also purchased iron mines with an annual output of 1,800,000 tons and considerable tracts of coal land in the Connellsville and adjoining districts, and began the installation of a furnace capacity sufficient to supply the total requirements of the Tin Plate, Sheet Steel, and Steel Hoop Companies,† whose financial control, represented by William and J. H. Moore, was identical with its own. The National Tube Company adopted the same policy. This company owned no ore or coal, but evidently relied upon its friendly relations with the Federal Steel Company, J. P. Morgan & Co. being represented in both, to procure for it ore and coal on favorable terms; for in the fall of 1900 the National Tube Company began the construction of a large, open-hearth steel plant at Wheeling, West Virginia, which was designed to furnish steel billets to all its plants in the Central West.‡

These projects of industrial independence were rapidly taking form during 1900, and their approaching consummation menaced the continuance of harmony in the steel trade. In the West, the Federal Steel Company was faced with the danger of losing its entire market for wire rods, and in the Ohio district with the loss of a large demand for the output of its Lorain plant. In the Pittsburg district, the Carnegie Company was affected by each one of the developments in that section. The American Steel

\* *Iron Age*, December 21, 1899.

† The American Steel Hoop Company owned a fifth interest in the Mahoning mine at Hibbing, Minnesota, producing 1,000,000 tons of ore annually, and a third interest in the coal property of the National Mining Company, comprising 7,000 acres of coal land at Bridgeville, near Pittsburg. *Supplement to Iron Age*, December 27, 1900.

‡ The facts relating to the acquisitions of different companies mainly derived from *Supplement to Iron Age*, December 27, 1900.

and Wire, the Moore Companies, and the National Tube Company were each striving to make themselves independent of the Carnegie Company, which had, from the beginning, found its largest market in the mills which its would-be rivals now controlled. If their plans should materialize, the Carnegie Company would have to find new markets for its blooms and billets,—markets much more difficult to approach than the Pittsburg district afforded. Its former customers would produce for themselves the enormous quantity of material which they had formerly purchased. The tendency of the iron and steel industry, under the leadership of the consolidations, was towards a declaration of industrial independence, which would leave the Carnegie and the Federal Steel Companies to blaze new avenues of demand.

Neither of these companies, however, had any intention of submitting to such a loss of markets. They had long since determined—in the case of the Carnegie Company, according to Mr. Schwab, in the early part of 1900—to resist the new policy by direct competition. If the other large companies refused to buy their steel billets, they would convert those steel billets into wire rods, sheets, and tubes, and sell them in competition with their recalcitrant customers,—in other words, they would seek their new markets, not in foreign lands or in new forms of production, but in the preserves of their rivals.

The Federal Steel Company led off in this counter-movement by threatening to build wire mills unless the American Steel and Wire Company should abandon its plan of producing its own material and renew its wire-rod contract with the Federal Steel Company. The Steel and Wire Company saw no present profit in competition, and its Western extensions were abandoned. With the situation in the Pittsburg district, the Carnegie Company proposed to deal in similar fashion. On January 12, 1901, this company announced the proposed construction of a



large tube mill at Conneaut, Ohio, having chosen this location on Lake Erie both because of the railway discrimination against Pittsburg in east-bound freights, and because the empty ore cars returning from Pittsburg could be filled with coke for the tube works. They also proposed to build sheet mills at Homestead; and it was strongly intimated that other lines of finished material would be invaded.\* At the same time, the Carnegie Company was preparing to secure an independent line to the seaboard by way of the Western Maryland Railroad, and the abandoned route of the South Pennsylvania. These announcements caused the most serious anxiety to the leaders of the newly formed consolidations in the Central West. In the Chicago district, it was generally believed that the carrying out of the plans of independence conceived by the management of the American Steel and Wire Company had only been postponed to a more favorable season. The fighting strength of the two companies involved was so nearly equal that permanent peace could not be expected in view of the large inducements offered by independent control of the materials of production. At any time the harmony in the steel trade of this section might be destroyed, and monopoly earnings reduced to a competitive basis. In the Pittsburg district, the Carnegie Company threatened with its competition the five Moore Companies, the Steel and Wire Company,

\*The *Iron Age* of January 17, 1900, describes the situation as follows:—

"Avowedly, the Carnegie Steel Company have decided that in view of recent developments their policy must be to carry the processes of manufacture forward from the ore and coal in the ground to the finished marketable material. In other words, ultimately no steel will be marketable in the form of the billet. The Carnegie Steel Company now produce steel rails, structural material, and plates. Quite recently the manufacture of axles has been added. . . . In a few months the plant now building for making steel bars and allied products will be completed. The Conneaut plant will take care of the lines of pipes and tubing, which is regarded as a branch which is bound to develop largely. It is understood that plans have been completed for the building of a very large sheet mill, if, in fact, the contracts are not already placed for the machinery. An outlet for additional steel is to be sought in wire rods, although that will probably not be taken in hand for some time to come."



and the National Tube Company. There was a general belief in the sincerity of Mr. Carnegie's emphatic declarations, and the future of harmonious control in the Pittsburgh district appeared very doubtful.\* The iron and steel trade of the Middle West seemed about to descend into the depths of a competitive struggle, wherein the seller, who for a short time had been the master of the buyer, should again be his servant. Such a contingency it was to the paramount interest of the consolidations to avoid.

The situation in the Pittsburgh district was of peculiar menace. The Carnegie Steel Company owned the most complete, the best-equipped, and the best-managed steel plant in the United States. The perfection of its equipment in point of independent supplies of materials and transportation service has been already described. No one of its rivals was worthy to be compared with it in point of self-sufficiency of production. This equipment supplied ore and fuel to the mills which were grouped so closely about Pittsburgh that the president of the company was able to visit some department of each mill on successive days. The Edgar Thompson furnaces and mills were at Bessemer, two miles from Pittsburgh; the Duquesne furnaces and mills, four miles from Pittsburgh; and the Homestead Steel Works, one mile from the city. Besides these larger works, there was located in or immediately adjoining the city the upper and lower Union Mills, the Carrie and Lucy Furnaces, and the Howard Axle Works. All these plants were connected by the Union Railway, with thirty-nine miles of track, which in turn connected

\* *Commercial and Financial Chronicle*, January 26, quoting an interview with Andrew Carnegie. "The immediate cause of whatever trouble exists in the trade is probably the announcement that the Carnegie Company is about to construct extensive works for the manufacture of tubes. . . . The National Tube Company formerly obtained its steel billets from the Carnegie Company, but decided to erect blast furnaces and mills to supply itself. Naturally, the Carnegie Company then announced that it would be forced to finish its own product into tubes."

with the Pittsburgh, Bessemer & Lake Erie Railroad to the north. This arrangement of mines, coke ovens, and mills, was the most favorable that could have been devised for economical production. The mills of the Carnegie Steel Company were concentrated at the point of largest present advantage, where materials could be most easily assembled, and from which the largest markets could be most easily reached. It was this fact of concentration, even more than their superior facilities, which gave to the Carnegie Company their most pronounced advantage. The mills of their rivals were too widely scattered. Their location antedated the recognition of Pittsburgh as the natural seat of the iron and steel trade. For example, the plants of the National Steel Company were at Youngstown, Columbus, Bellaire Mills and Mingo Junction in Ohio, and at New Castle, Sharon, and Uniontown in Pennsylvania. Only in one instance—Youngstown and Niles being but fifteen miles apart—were two plants within hailing distance, and some of them were two hundred miles apart. All of these plants could not have equal advantages in obtaining materials, and no one of them was so well situated as the mills at Pittsburgh. The plants of the National Tube Company were even more scattered, and those of the American Steel and Wire were sown broadcast over the whole face of the land. A grant of land, a cash bonus, ten years' exemption from taxation, a local connection, any one of a number of causes entirely disconnected from considerations of economic production, had determined the original location of these plants, the burden of whose maladjustment the steel trusts had now to assume and carry. The plan of concentration on Neville's Island, which the American Steel and Wire Company had already begun to execute, was an evident recognition, on their part, of the superior economy of concentrated production in power, in labor, in superintendence, and in the provision of materials. Mr. Carnegie had

anticipated his rivals by twenty years. All the benefits of centralization which they were striving for he had long since achieved.

The advantages of the Carnegie Company did not stop here. Their mechanical equipment was superior to that of any other mills, and their business was the best managed of any in the country. It is not meant by the first statement to imply that the consolidations did not include individual plants which were the equal of the Carnegie mills. The plant of the Ohio Steel Company at Youngstown, for example, was not inferior to anything in Pittsburgh. It is, however, true that the average excellence of the Carnegie equipment was far above the average of any of its rivals. The superior equipment of the Carnegie works was the result of a policy of large expenditure upon betterments persistently pursued for many years. "Every new process and every new machine which would in any way increase the efficiency, reduce the cost, and improve the product of the Carnegie Company, has been applied, until this great concern has raised the physical condition of its plants to a point which is unsurpassed."\* Dividends had never been considered by the management. Improvement had been the one thing thought of. During the years 1898 and 1899 the Carnegie Company expended out of earnings, upon new construction and betterments, no less a sum than \$20,000,000.† The nature of this policy of the investment of earnings in improvements may be illustrated by comparative statement of the Homestead mills in 1890 and 1898: ‡—

1890.

1. Two 5-ton Bessemer converters.
2. Seven open-hearth furnaces, one 15-ton, four 20-ton, two 35-ton,
3. One 28-inch blooming mill.

\* *United States Investor*, February 9, 1901.

† *Age of Steel*, January, 1900, special anniversary edition, p. 102.

‡ The facts relating to Carnegie Mills are taken from the *Directory of Iron and Steel Works*, published by the American Iron and Steel Association.

4. One 28-inch and one 33-inch train for structural shapes.
  5. One 10-inch mill.
  6. One 32-inch slabbing mill for rolling heavy ingots.
  7. One 120-inch plate mill.
- Annual capacity, 295,000 tons.

## 1898.

1. Three Bessemer converters, two 10-ton, one 12-ton.
  2. Thirty open-hearth furnaces, one 12-ton, six 25-ton, eight 35-ton, and fifteen 40-ton.
  3. One 28-inch and one 33-inch blooming mill.
  4. One 23-inch and one 33-inch train for structural shapes.
  5. One 10-inch mill.
  6. One 32-inch slabbing machine.
  7. One 40-inch cogging mill.
  8. One 35-inch beam mill.
  9. One 119-inch plate mill.
  10. One 3,000-ton and one 10,000-ton hydraulic press.
  11. Steel foundry, press shop, and machine shop.
- Annual capacity, 2,260,000 tons.

These represent the improvements at only one of the Carnegie plants, made during a season of depression and paid for out of earnings. The increased earning power here represented was clear gain. No deductions had to be made for interest payments. The policy of the Carnegie Company was purely industrial. Financial considerations had little weight. Its shares were never in the market. It had no loans to float, no stock commissions to sell, no bonuses to dispose of. The greater part of its profits was each year invested in the plant. As Mr. Carnegie recently remarked, he and his partners knew little about the manufacture of stocks and bonds. They were only conversant with the manufacture of steel.

The management of the Carnegie Company represented the acme of productive efficiency. Every officer had risen from the ranks by sheer dint of compelling merit. Every head of a department had an interest in the business apart from his salary. Trade unionism had been banished from the mills in 1892, and the workmen were spurred by high

wages and the promise of advancement. No visitor to the Carnegie mills can fail to be impressed with the intensity of the effort and the strained attention evident in every department. None but the strongest could stand the terrific pace. Breakdowns were frequent at thirty-five, men were old at forty-five. The famous "iron-clad agreement," it has been claimed, was designed to dispense peaceably with partners who had outlived their usefulness. Not only was money lavishly spent on salaries and wages, but large sums were paid for information. The result of these advantages and this policy appeared in the revelations of the Carnegie-Frick controversy, when the plaintiff claimed that the total profits of the company for 1898-99 exceeded \$70,000,000. Such was the company that threatened the steel trusts with its competition.\*

The results of this competition were clearly foreseen by those in control of the consolidations. In view of the inadequacy of their surplus reserve, taken in connection with their other disadvantages, a general decrease in profits would be the signal for the passing of dividends, and a heavy fall in the value of their stockholdings. Not only this, but industrial warfare demands new appliances and large construction, which could only be paid for by issuing bonds or adopting the more dangerous course of

\*The situation was made more critical by the fact that the man who had built up the Carnegie Company was still in active control of its affairs and directing its policy.

The *Iron Age*, on the occasion of his proposed retirement in 1899, remarked as follows:—

"Mr. Carnegie has carried the American iron trade along with him. He has been the unswerving advocate, and his plants the most stunning examples, of the policy of running to full capacity. He has been the man, above all others, who created and fostered the policy of record-breaking. He has, more than any other producer, spent money lavishly on equipping his plants with the very latest appliances, who has invested earnings most promptly in enlargements. He has set a pace on the iron trade of the country which all have been forced to follow. He has been, more than any other man, the type of the untiring, incalculable exponent of unrestrained competition, which the younger generation of manufacturers and business men may admire, but do not care to imitate."

increasing the floating debt. In either event the decline in the value of stocks due to decreased earnings would be fixed and confirmed for years by placing fixed charges ahead of dividends. The steel stocks were but weakly held. With the possible exception of National Tube, preferred, they had no investment standing. Severe competition would reduce them to the level of National Starch, United States Rubber, Union Steel and Chain, and the other pariahs of the stock exchange. The interests in control of the consolidations owed it as a duty to their stockholders to use every means in their power to avert the impending calamity.

Not only were the leaders of the steel trusts under obligations to their stockholders to prevent the threatened disaster, but considerations of private advantage inclined them to the same policy. The consolidations in the iron and steel trade required in their formation the provision of very large sums of money for the purchase of desirable plants, whose owners were in position to drive hard bargains with the promoters. It was also necessary that the new companies should be furnished with working capital. This money was to be raised by the sale of the stocks of the new corporations to the general public, and the capitalization has in all cases been made sufficiently large to cover the cash requirements, always provided that the public bought the stocks at prices based on the representations of promoters, and that the earnings of the combinations would be sufficient to pay dividends on the stock. It was believed that the outside demand could be depended on for the amount of cash necessary, and on the strength of this opinion the consolidations were underwritten by banking houses and other financial institutions, which divided the responsibility thus originally assumed among their respective constituencies. This financing was in most cases of the nature of a guarantee that a sufficient amount of the new

stocks would be sold, and at a sufficient price to provide the funds which the promoters required for their cash payments. In return for this guarantee the underwriters received a stock commission, in some cases amounting to 10 per cent. of the total capitalization of the companies. With the certainty that cash would be forthcoming where cash was required, the promoters were able to purchase the necessary plants, generally by the exchange of stock with their owners, and to place the new companies firmly upon their feet with a control of the several industries, and with a working capital sufficient for beginning business. If the stocks were readily sold, the obligation of the underwriters to the new company soon ended; and their only concern was to dispose of their stock commissions and take their profits. On the other hand, if the public would not buy the stock, the underwriters were bound by their agreements to take the unsalable securities, and pay cash for them at the prices agreed upon. In some cases also, where the financing had been carried out by the sale of "privileges," — that is to say, two shares of stock for the face value of one, — the underwriters purchased the stock in the first instance, assuming the entire responsibility of its sale. The profits of the promoters were to come from the same source as those of the underwriters; namely, from the sale of such stock as remained to them after the plants were purchased and the underwriting secured. Underwriters and promoters alike looked for their profit to the stock market, in the belief that the public would buy at good prices the stocks which were offered to them.

These expectations of profit were disappointed. The securities of the steel companies first formed, Federal Steel and American Steel and Wire stock, went off readily enough; but the trust business was so greatly overdone during the first six months of 1899 that, in the flotation of most of the consolidations organized during that period,

underwriters were obliged to take and pay for large blocks of stock, and to hold this stock for a more favorable market, neither promoters nor underwriters being able to take their profits. The offerings of trust shares was too great for easy consumption: the public's appetite was dulled by huge feeding. During the last six months of this year, a general decline took place from the list prices of the trust stocks, the steel trusts suffering with the rest. This decline was accentuated by the panic of December 18, 1899, and continued with but little check until October, 1900. Profitably or safely, underwriters and promoters, unable in such a market to dispose of their holdings of trust stocks, found themselves in the position of controlling the policy of the new companies. This result, as may naturally be supposed, was no part of their original intention. It is true that the original backers of a new corporation, if they deal honestly with the public, will continue to be active in its management until no question exists of its stability. They will be especially forward in supporting the price of the new stocks, whenever the market is unfavorable. In the pursuit of this policy of temporary control, which is expected by the public, and failing in which, they will forfeit confidence in the honesty of their future proposals, the sponsors of a new enterprise will often accumulate a large amount of its stock either to decide an election or to sustain prices. It is no part of their policy, however, to make these holdings permanent and identify themselves in this way with every corporation with which they may be temporarily associated. The profits of underwriters and public promoters come from the sale of stocks, not from their dividends. Their resources are, so far as possible, held in such form as to be instantly available. When they lock up their funds in the securities of a new enterprise, it is because their expectations of profit have been disappointed and their calculations have gone astray. In such an event, and



finding themselves placed in control, it is to be expected that they will so manage the corporation as to improve, as rapidly as is consistent with safe and honest management, the position of their holdings of its securities, in order that the deferred profits of underwriting and promotion may be as soon as possible realized.

Steel was not popular with the speculators, and in a declining market the steel stocks were heavy sufferers. After the certainty of Republican victory had strengthened the position of the consolidations, however, the steel stocks began to advance in sympathy with the general movement.\* The long-deferred hopes of the insiders seemed about to be realized. The public was willing to buy their shares; and, in the unreasoning market which followed the election, the higher the price of a stock was pushed, the more eager were the speculators to buy it. Sales of all the steel stocks showed considerable gains. The underwriters and promoters were at last able to sell their holdings on an advancing market, and to take their long-deferred reward for services rendered. Every indication pointed to a great bull movement in steel stocks, which was supported and strengthened by a rising tide of demand in the steel market. The realization of deferred profits which the advancing market was making possible would be broken off by the threatened outbreak of hostilities between the great companies, and those in control of the steel trusts had therefore a double motive to prevent competition. Their obligations to the other stockholders of the steel trusts and their own interests as the

\* The following table shows the gains recorded on the principal steel stocks from October, 1900, to January, 1901:—

	Common.		Preferred.	
	Lowest.	Highest.	Lowest.	Highest.
Federal Steel . . . . .	31½	58½	60½	78
American Steel and Wire . . . . .	30½	47½	71½	89
National Tube . . . . .	45½	69½	92½	105½
National Steel . . . . .	24	43	82	94½
American Tin Plate . . . . .	26½	57½	79½	93
American Steel Hoop . . . . .	17½	32½	65	79

largest stockholders made it imperative that the values of the steel stocks should be protected. Failure to arrange an amicable settlement of their difficulties would not only inflict severe losses upon them, but would lock up their cash resources at a time when the formulation of new projects of consolidation promised large profits of quick returns from the employment of their funds.

The financial situation in the beginning of 1901 must be clearly understood if the formation of the United States Steel Corporation is to be explained. The problem presented by the attitude of the Carnegie Steel Company was not to be solved by exclusive reference to industrial conditions. If the consolidations had been controlled by steel producers, there is much reason to suppose that a fight would have been made. The passing of dividends could not affect the control. The absence of indebtedness gave a reserve for competition in the issue of bonds equal to the minimum earning capacity of the plants. The conflict would have been severe; but the Carnegie Company, in spite of its strength, could not, in all reasonable probability, have ruined its debt-free competitors. It could only force them to enlarge the field of their operations by new construction; and, when an armistice had been declared, the other steel consolidations would retain their control of the raw materials, the capacity of their plants would be enlarged, their cash reserves would be increased, and, if bonds had been issued, the assets side of the balance sheet would have been correspondingly increased. The next great boom in the iron and steel trade would have found the consolidations ready for the demand, and would have enabled them to recoup their losses by obtaining a larger share of the rapidly increasing demand for iron and steel. Periodical competition has no terrors for industrial industry. It is only financial industry which dreads a reduction of profits. The Midvale Steel Company or Jones & Laughlin, Limited, can

pass through a period of depression without disaster and with substantial gain in increase of plant and equipment. The National Tube Company could have done the same if its preferred stock had not contained the cumulative feature, and if its securities had been held for investment, and not for sale. As it was, however, it was absolutely necessary to the controlling interests in the steel trusts, not merely in order to protect their own holdings, but to retain their prestige with the speculative public, and to prevent a general decline in stock values, that the threatened steel war should be avoided. The steel industry as such was in no danger from competition; but the financial control of the steel industry was in great danger, and that control must be protected. Mr. Carnegie could not have chosen a better time to make his attack than when the leading financial interests of the country were anxious to engage in new operations, to whose success a decline in the value of the steel stocks might have proved disastrous,—disastrous not merely because of the loss of confidence in their projects which the passing of steel dividends would cause, and the chill and paralysis of speculation which would follow, but because of the locking up of capital in securities whose values, raised with so much care and after so long a time, the threatened competition would practically destroy. Mr. Morgan and his associates would have been unworthy the further confidence of the investing and speculative public, had they not done everything in their power to prevent the disaster threatened by the steel war.

There were only two ways by which the controlling interests of the steel trusts could avert the impending calamity. One was to make an abject surrender to the Carnegie Company, thereby confessing their inferiority, inflicting a severe blow upon their already doubtful credit, giving up all the plans of industrial independence which had been included in their schedules of advantages, and

upon the attainment of which their capitalization had been in part based, and leaving the danger of competition still present and no longer concealed; the other to adopt a plan which should harmonize all the conflicting interests by uniting them into one corporation, organized, like the Federal Steel Company, to own a majority interest in the various steel companies which it was necessary to control, and in this way to remove the danger of competition. In a declining stock market the second alternative could hardly have been chosen. But, in the great bull movement which culminated in May of the present year, all things were possible. The United States Steel Corporation was backed by the strongest financial houses in the United States. It included the Carnegie Company, the strongest steel company in the world; it completely realized the ideal of independence, for which all the merging companies had been striving; it exorcised the forbidding spectre of competition; and it was offered to the public at a time when the speculative mind was able to appreciate these advantages at something more than their real value. Out of this favoring conjunction of circumstances, was evolved a corporation with a capitalization of \$416,000,000 in excess of the combined capitals of the merging companies, out of which has been taken a large amount of ostensible profits in bonuses, premiums, and commissions. The details of the organization, the motives to which the promoters appealed, and the financial prospects of the new company are matters for subsequent study. The outcome of the present investigation is that the primary advantages sought in the formation of the United States Steel Corporation were the avoidance of competition, and the guarantee of permanent stability and harmony in the steel trade in the Middle West.

EDWARD SHERWOOD MEADE.

THE UNIVERSITY OF PENNSYLVANIA.

## LABOR LEGISLATION IN FRANCE UNDER THE THIRD REPUBLIC.

### II.

*Insurance — General.* The question of workingmen's insurance at the present time easily claims precedence over all other efforts now being actively put forth for the accomplishment of social reform in Europe. The action taken by European states during the past ten years in regard to this matter has been such as profoundly to modify the aspect of the labor problem in those countries. The elements involved in this problem are of great complexity, and we cannot of course within the limits of this article enter more than briefly into their consideration.

Under the head of workingmen's insurance it is usual to embrace the three branches: that of insurance against accidents, that against sickness, and, finally, that against invalidity and old age.\* In all three of these branches, France has taken very important action within the last thirty, and chiefly within the last five or ten, years.

To understand this legislation, it is necessary to make a brief preliminary statement. Though the question of workingmen's insurance is generally considered as distinctly a modern problem, its rise really goes back a considerable number of years. As early as 1850, France, by the act of June 18 of that year, had created a national insurance bank for the provision of old age and invalidity pensions for workingmen (*caisse nationale des retraites pour la vieillesse*), which, in spite of many defects in its organization, steadily advanced in respect to the importance of its operations.

\* Recently attempts have been made, notably in Switzerland, to provide insurance against involuntary unemployment. This contingency, however, is not one to which insurance principles are properly applicable, and there is little prospect of its great development. See article on "Insurance against Unemployment," by the author, *Political Science Quarterly*, September, 1897.

For provision against sickness considerable progress had also been made. In this instance, however, it was largely a matter of private action. As the result of efforts put forth during a great many years, France had developed an extensive system of mutual aid societies, similar in character and purpose to the British friendly societies, though far from as effectively organized.

As regards the question of accidents to labor, however, practically no progress had been made. France was still under the régime of the Code Napoléon, the provisions of which were practically those known in this country as the common law liability of employers, construed in its strictest sense. The state, to be sure, had in 1868 created a national accident insurance bank (*caisse nationale d'assurance en cas d'accidents*), in which workingmen could voluntarily insure themselves against accidents, as in a private company; but, owing to its faulty organization, it has remained practically inactive.

To recapitulate, then, the importance of the considerations involved in workingmen's insurance had in a measure been appreciated; and something of a beginning had been made in the way of practical efforts for its provision. It was but a beginning, however. Only an insignificant portion of the laboring population were in any way provided for. Existing institutions were defective, and, as then organized, could never hope to provide anything like a general system of workingmen's insurance. The problem confronting the Republican legislators was, then, either the thorough reform of the bases of these institutions, so that they should be organized according to correct insurance principles, or the creation of wholly new systems.

This task has been resolutely undertaken by the French Parliament. Within recent years important and radical action has been taken in regard to all three branches of insurance, the result of which is thoroughly to reorganize the systems of sick and old-age and invalidity insurance, to

make employers responsible for practically all accidents to their employees, and to make certain the enormous extension of workingmen's insurance in the future. It is this action which we wish now briefly to summarize.

*Insurance—Accidents.* Of the three kinds of insurance, that relating to accidents was of much the greatest urgency. It is unnecessary here to show the great injustice of the old law relating to employer's liability. Its result was to throw upon the workingmen all the hardships entailed by accidents due not only to their own fault, but of all the numerous fortuitous accidents, those caused by their fellow-workmen, and those whose occurrence, though resulting from the fault of the employer, could not be so legally proven. The vexations and expenses of litigation engendered by the system were intolerable.

The attempt to remedy this has led to uninterrupted efforts on the part of the legislature for over fifteen years, success only being achieved in 1898 by the act of April 9 of that year. The points at issue delaying action were many. The two chief, however, were whether employers should be made liable for all accidents or whether those due to the fault of the employees should be excepted, and whether or not it should be compulsory upon the employers to make the payment of the indemnities certain by contracting insurance either in a state or other insurance institution. A compromise on these points was finally effected and the present law enacted.

This act is one of the most important pieces of labor legislation ever enacted by France. Like the German and Austrian compulsory insurance laws and the English Workmen's Compensation Act, it makes a revolution in regard to the obligation of employers to indemnify their workingmen for injuries received during their work. Instead of a workingman, when injured, having to bring suit to recover damages, this act broadly provides that in the specified industries, which include all the principal

branches of industrial work, an employee injured by an accident not intentionally brought about, causing him to be incapacitated for work for more than four days, or the heirs of a workingman killed by an accident, shall have the right to an indemnity according to a fixed scale of benefits, to be entirely paid by his employer.

The scale of indemnities provided for is as follows: (1) in case of temporary incapacity to labor, a daily benefit equal to one-half the wages the victim was receiving when injured, beginning with the fifth day of incapacity; (2) in case of partial but permanent incapacity, a benefit equal to one-half the amount of the loss of wages caused by the incapacity; (3) in case of total permanent incapacity, a yearly pension equal to two-thirds of the annual wages formerly earned by the victim; and (4), in case of death, the heirs to receive a pension varying from 20 per cent. of the annual wages of the deceased for the widow to 15 per cent. for each child under sixteen years of age, or 10 per cent. for certain other dependents, the total, however, in no case to exceed 60 per cent. of the deceased's wages.

These indemnities, as has been said, must be paid by the employer. The only qualification in this imposition is that, if the accident resulted from the inexcusable fault of the employer, the benefit can be increased within the limit that it cannot exceed the wages of the person injured; or, if the latter was grossly at fault, it can be diminished somewhat, according to the circumstances of each case. In fixing the indemnity, the important limitation should be noted that in the case of workingmen earning over 2,000 francs yearly the above schedule of benefit only applies to that sum, the rate as regards the surplus being only one-fourth that of the regular rates. In addition to the payment of these benefits, the employers are required to defray all medical and funeral expenses of injured workingmen, the last item not to exceed a maximum of 100 francs in any one case.



Thus far the law is very similar to that of Germany and Austria. Unlike these countries, however, France refused to make it compulsory upon the employers to insure themselves against this risk. In place of this system for making the payment of the indemnities sure and immediate, it created a system of guarantees by which the victims of accidents have a lien upon the property of their employers for the payment of the temporary benefits and medical expenses; and the pensions proper are guaranteed by the state *caisse des retraites pour la vieillesse*. This institution in turn is protected by a special guarantee fund, to be created by a special tax levied upon all manufacturers and employers coming under the provisions of this act.

While compulsory insurance was rejected, the great desirability of insurance, however, was fully recognized. The principle of compulsion was only rejected because it was firmly believed that the employers would themselves see the necessity and usefulness of insurance, and voluntarily organize institutions for its provision. The act thus permits employers to make complete provision against the benefits that they may be called upon to pay through insurance. They can thus turn over all the work of paying the smaller indemnities to mutual aid societies, provided that they make suitable contributions to their support, and can in like manner, by making proper payments for this purpose, transfer the payments for which they become liable to the National Old-age Pension Bank; or they are at perfect liberty to join forces and form mutual insurance institutions or cover their risks through existing private insurance societies.

This law but laid down the general principles that must be followed in organizing any system for the compensation of accidents through insurance institutions. The elaboration of the details of control and administration has been the work of a large number of decrees and special administrative orders. The fact that the largest possible liberty

was left to the employers to provide for their insurance in such manner as they saw best, provided satisfactory guarantees always existed, has necessarily led to considerable diversity of action and consequent complexity as regards the supervision and control of each.

When the law was passed, it could only be surmised what action would be taken by the employers to protect themselves against the risks thrown upon them by the law. In practice, resort has been had to the following five methods:—

(1) A certain number of establishments, either on account of their importance, such as railway and mining companies, or because the risk of accidents was very small, have preferred to carry their own insurance.

(2) Others have organized, in accordance with the permission granted by the law, so-called guarantee syndicates, or organizations where a number of employers mutually guarantee that the obligations regarding the compensation for accidents will be duly met. This combination, it will be observed, is not one of insurance, properly speaking. Its advantages are that it obviates the difficulties and expenses of managing an insurance institution. Each employer in reality remains his own insurer, the syndicate only intervening in case this obligation is not met. A decree of February 28, 1899, determines the conditions that must be observed in organizing such institutions. The most important of the provisions are that, in order to give the required stability and guarantee, the syndicates must embrace at least five thousand workingmen and ten establishments, of which five at least must employ not less than three hundred workingmen each. The constitution of a proposed syndicate must in all cases be submitted to the government for approval. This is not granted until it has been critically examined by the Consulting Committee on Insurance against Accidents (*comité consultatif des assurances contre les accidents du travail*).

(3) Employers have organized true mutual insurance institutions. Though likewise subject to the control of the state, these societies can adopt any system of contributions or assessments for raising the funds required that is found desirable. As conditions vary so much in different industries this freedom of action is a very important one. There are a number of very important accident insurance institutions of this kind, the most important of which were voluntarily organized by employers long prior to the passage of the act of 1898, making compensation compulsory. Among these may be mentioned the funds of the *comité des forges de France*, of the textile mill operators and the sugar manufacturers.

(4) Resort can be had to the ordinary private accident insurance companies operating on the system of fixed premiums.

(5) Finally, insurance can be contracted through the National Accident Insurance Bank created in 1868, and reorganized by the law of May 24, 1899, so that it could accept risks of this kind.

The relative merits of these different forms of providing for the charges resulting from accidents are the subject of constant discussion in France. It is impossible at this day to determine which will become the most important. It would seem that each form has its advantages as regards certain kinds of industries, and that, consequently, there is no reason to suppose that any one will prove of such superiority as to drive out the others. The competition between the different systems, and the consequent practical experiments with different combinations, are bringing to light many interesting features regarding insurance against accidents, and are contributing to the general development of the movement.

Did space permit, it would be interesting to make a more detailed comparison of the relative advantages and disadvantages of these different systems. Here, however,

we must limit ourselves to a description of the system organized by the national accident insurance bank, as it is not only national in character, but is bound to exert a great influence in determining the tariffs and other conditions of insurance offered by the privately organized insurance institutions. Indeed, one of the special advantages of having such a state institution is that it furnishes a model and standard that must be at least attained by other institutions.

The National Accident Insurance Bank, as created by the law of 1868, was organized upon an exceedingly defective basis. In order that it might fulfill its legitimate function in the new scheme for the compensation of accidents, it was necessary that it should be thoroughly reorganized upon a new basis. This was accomplished by the law of May 24, 1899.

Under the old system, provision was made for three grades of insurance, according to whether 3, 5, or 8 francs were paid as annual premiums. In case of an accident, causing an absolute incapacity for physical work, a pension was purchased for the insured from the National Old-age Pension Bank by the payment to it of a sum equal to six hundred and forty times the amount of the annual premium. For permanent incapacity to follow his special trade the pension was one-half this amount. In case of death the heirs received a lump sum equal to twice the annual pension paid for total disability. The amount of the pension would vary according to the age of the recipient at the time it was awarded, in accordance with the tables in use by the Old-age Pension Bank. Provision was also made for an annual subsidy from the state, fixed for the first year at one million francs.

The crudity of this system is seen from the fact that it was not necessarily to be self-supporting, that the basis upon which the amount of the pension was calculated was largely arbitrary, but most of all that absolutely no ac-

count was taken of the principle of trade risks or the difference in the liability of accidents in different occupations. How little the institution met requirements is also seen from the fact that from its organization in 1868 to December 31, 1897, it had paid out only 215,000 francs in indemnities.

The law of 1899 changed all this. It provided that the bank might insure against accidents comprehended under the law of April 9, 1898, as far as those resulting in death, total or partial permanent incapacity, were concerned. In doing so, however, it provided that the system to be created should correspond to the best actuarial and insurance principles. The premiums demanded should be sufficient in amount, so that, under no circumstance, should resort be had to the state subsidy, authorized by the law of 1868, and that all expenses, including expenses of administration, should be fully met; finally, that the table of premiums should be prepared in taking account of the different trade risks pertaining in the different industries and occupations.

The scheme of insurance worked out by the bank in virtue of the power conferred upon it by this law is briefly as follows:—

The risks insured against are only those resulting in death or permanent disability, whether partial or total. No liability is thus assumed regarding accidents causing merely a temporary disability for work. As regards the first, the insurance can embrace either the payment of the pension due the disabled person, or his relatives in case of his death, funeral expenses, cost of medical attendance, and the daily benefit until the pension begins to run, or the pension only. The amount and conditions of the payment of the pensions are those set forth in the laws which have already been given.

The most important feature of the system is the tariff of premiums prepared in accordance with the trade risk of

each industry. This tariff was promulgated May 26, 1899, and possesses several features of interest. It differs from other systems in the fact that it represents merely the maximum premium that can be demanded by the bank from employers in each industry. The premium which is actually required is usually less than that indicated in the tariff, its amount being fixed in accordance with the information furnished by the applicant for insurance, corroborated by other evidence, and, if necessary, by a special investigation by the bank, of the methods of work, character of plant, and installation of the establishment the employees of which it is intended to insure. It will thus be seen that practically a separate contract is made with each applicant, though in all probability general rules for determining the contract will be gradually evolved. The provision, however, is altogether an unusual one, and it remains to be seen how throwing so much responsibility upon the managers of the bank will work out in practice.

As regards the mechanism of the system, the regulations require that each employer applying for insurance must furnish a list of all his employees to be insured, giving for each his name and daily wages or yearly salary received. Thereafter, whenever a workingman is employed or dismissed, the bank must be immediately informed, by means of a slip torn from a special stub-book. The premiums to be paid will of course vary in accordance with these changes. The premiums are payable quarterly, and the account definitively regulated on the last payment of the year in accordance with the changes that have taken place in the *personnel* insured.

In addition to this system of state insurance an administrative machinery was found to be necessary for the inspection and authorization of private insurance schemes. This was met by the creation, August 3, 1899, under the ministry of commerce and industry, of the division of in-

surance and provident institutions (*division de l'assurance et de la prévoyance sociale*), and the constitution, March 1, 1899, of the Consulting Committee on Insurance against Accidents (*comité consultatif des assurances contre les accidents du travail*). Both of these bodies bid fair to render very important services as regards all matters relating to workingmen's insurance. Together they perform the same functions as the German Imperial Insurance Department, with the exception that the first has also numerous other duties in addition to the care of matters relating to accident insurance. Among the matters thus coming under its control are life, fire, and other insurance, the national banks for insurance against death or accidents, and the commissions supervising them, all matters relating to schemes for insuring workingmen against accidents in virtue of the law of 1898, the National Old-age Pension Bank, old-age funds of all kinds, and the application of the law regarding workingmen's houses and savings-banks.

The Consulting Committee is more in the nature of a technical and judicial body. It is composed of twenty-four members, representing all the classes and institutions interested in the system of insurance against accidents. Among the members there are three members of the Institute of Actuaries, the actuary of the *caisse des dépôts et consignations*, a president of a mutual accident insurance institution, a president of an accident insurance company with fixed premiums, a workingman member of the Superior Council of Labor, a president of a trade union, the director of the labor bureau, and so on. Its functions thus far have been the decision of the numerous questions arising regarding the details of the execution of the law.

The law of 1898, as has been said, related to certain specified classes of industrial workers. It has since been supplemented by the act of June 30, 1899, which extended its provisions to accidents occurring in agricultural work

where use is made of machinery run by a mechanical motor. Laws have also been passed regarding the insurance of miners and of mariners, which will be elsewhere considered.

*Insurance—Sickness, Mutual Aid Societies.* In her mutual aid societies, France seems to have found the most practicable form of purely voluntary insurance against sickness. The problem of sick insurance there has, therefore, been almost wholly that of the development and improvement of these institutions. The history of mutual aid societies in France dates back a great many years. Their importance became such, however, that in 1850 the state felt called upon to assume a certain regulative control over their operations. A special bureau was created to look after their affairs, annual reports were required from them, and cash subsidies and other advantages were granted to encourage their development. The societies have steadily advanced in the number and the importance of their operations. In 1872 there were 5,793 societies, with 691,241 active members, owning invested funds to the amount of \$11,192,242. In 1892, twenty years later, there were 9,662 societies in operation, with a total of 1,503,397 members and invested funds to the amount of \$37,816,057. The latest statistics obtainable are those published in the *Revue du Travail* for July, 1900, and relate to the year 1897. On December 31 of that year there were reported 11,355 societies with 1,804,592 members and total assets of \$50,704,952.

In spite of the valuable work performed by these societies, they were in many instances defectively constituted. Organized as they were before the principles of scientific insurance were generally understood or practised, this was inevitable. Their great defects were these. In the first place they were not pure insurance institutions, but in many instances partook of the nature of a charitable



relief society as well. So much was this the case that it was a debated question whether they should be classed as charitable or provident institutions. Secondly, the insurance provided by them was not properly organized. Justice was not done between the members, no adequate regard being taken of the ages of members joining the societies in fixing the dues required of them. The different kinds of insurance were not kept distinct, and the method of making provision for old-age pensions, which the societies began in recent years to offer, was radically defective. If the insurance of workingmen against sickness was to advance in France, therefore, and the societies be made to constitute an effective general system of sick insurance, it was absolutely essential that they should be so reorganized as to obviate these defects. The two great lines along which reform was needed were thus: first, the elimination as far as possible of the granting of charitable aid; secondly, the reorganization of the societies upon a scientific basis, as determined by mortality and morbidity tables, and mathematical calculations of probable receipts and expenditures.

It is impracticable to attempt to follow in detail all the efforts put forth to accomplish these ends. Since 1881 measures looking towards the reform of the mutual aid societies have been unremittingly pressed in the legislature, and bills have repeatedly passed one or the other of the houses. Success, however, did not crown these efforts until April 1, 1898, when the law now in force was finally enacted.

This law repealed all existing legislation in relation to mutual aid societies and in its place substituted provisions embodying most of the changes that had been demanded. It is one of the most important measures of social legislation of recent years, and will undoubtedly result in a great advance in sick and old-age insurance.

It is first specifically stated that mutual aid societies

must limit their operations to the granting of insurance against sickness, accidents, invalidity, old age, and death, and to the defraying of burial expenses. They may, however, as purely accessory work, operate employment offices and grant aid to the unemployed, provided, however, that special contributions are required for these purposes. Secondly, all members must enjoy the same advantages, except as determined by the amount of their contributions and the tables of risks. These sections, it will be observed, accomplish the double purpose of limiting the action of the societies to their legitimate field of insurance, and of eliminating the feature of granting charitable aid. The gradual transformation of these societies from relief bureaus to pure insurance institutions, which had been going on for over fifty years, was therefore finally completed.

A second important change was that whereby more detailed and methodical statistical returns were required to be made to the government, and on their basis the government was ordered to prepare actuarial tables of mortality and morbidity applicable to mutual aid societies. It is evident that without such tables scientific insurance is impossible, yet France will for the first time be in their possession in consequence of this law.

The third fundamental reform introduced by the act was that in relation to the provision of old-age pensions. It was exceedingly desirable that this form of insurance should be encouraged in every way. The mutual aid societies had already entered this field; but, unfortunately, a very faulty method of operation had been adopted, and little progress was being made. Such societies as chose to do so, provided for the accumulation of a special fund for the purchase of annuities through the State Old-age Pension Bank. The capital of this fund could not be alienated, and only its earnings could be used. From time to time an annuity could be purchased, and the so-

ciety would then designate by vote one of its members as the beneficiary. A few thus received pensions, while the great majority of the members received nothing. The needed reform which was introduced by this act was that whereby a separate account should be opened with each member. Under this system each individual makes payments as he is able for the specific purpose of obtaining an old-age pension, and is encouraged to do so by the knowledge that he alone will profit by his sacrifices. From the standpoint of insurance principles the great reform was also accomplished whereby the financial operations of old-age insurance must henceforth be kept independent of the other work of the societies, and special contributions be required for its provision. The vicious system of a general fund is abandoned. Each member now knows what his contributions are for and the return he can expect for them. Secondly, the government is given the power of refusing to sanction the constitution of any society whose financial system does not show a proper adjustment of receipts to obligations incurred, or, in other words, that the insurance promises made can safely be met.

Other provisions of interest in this act are those whereby facility is given to the societies to form unions or orders similar to the great friendly society orders of Great Britain, and the creation of a superior council on mutual aid societies under the ministry of the interior, with the duties of supervising the administration of the act and suggesting additional legislation as found to be desirable.

Our sketch of this important law has necessarily been a brief one. Enough has been said, however, to show that the measure is in every way an advanced and radical one. Its result is to put the practice of sick and old-age insurance in France upon a thoroughly sound foundation, and to make possible the development of these two kinds of insurance upon a true actuarial basis. As such, it is com-

parable in importance with the recent insurance legislation of other European states.\*

*Insurance—Old-age and Invalidity.* The problem of the insurance of workingmen against old age and invalidity is, as has been stated, practically embraced in that of the reform, or, rather, reconstitution of the National Old-age Insurance Bank. This is true notwithstanding the recent act in regard to mutual aid societies that we have been considering, as these societies make use of the national bank for the provision of this kind of insurance, and are thus in reality but little more than intermediaries between the workingmen and the bank.

This institution was created by the law of June 18, 1850. It is a purely voluntary institution, offering the opportunity to such as desire to avail themselves of it to provide, by means of the payment of premiums, for a pension, after they have reached a certain age or have become invalidated. To restrict its operations to the poorer or working classes, for whose benefit it was planned, the amount of the premium that could be obtained was limited to a comparatively modest sum. This law has been repeatedly modified, but without materially changing the basis upon which the bank is organized. With the rise of the modern movement for workingmen's insurance, however,—which may be said to date from the year 1880,—increased attention was given to this institution with the view to extending its operations as much as possible and making its organization correspond more closely to approved insurance principles. Within the period covered by our sketch, five laws with this purpose in view have been enacted by the legislature. Of these, the last two—those of July 20, 1886, and July 26, 1893—are of especial importance. They, in fact, provide for the practical reorganization of the bank.

One of the great defects of the early legislation was that

\* No report has yet been made showing the results under the new régime.

a too high rate of interest was taken in calculating the value of the pensions offered, and at the same time a sufficient restriction was not placed on the amount of deposits that could be made by a single person. This led to the use of the bank for purposes of investment; and, as the interest offered was greater than could be earned by the bank, the government had to make good the deficiency. This the laws cited attempt to remedy. The rate of interest, which in 1882 had been reduced from 5 to  $4\frac{1}{2}$  per cent., was still further reduced,—first to 4 and then to  $3\frac{1}{2}$  per cent. The minimum deposit that could be made at one time was reduced from 3 to 1 franc, and the maximum annual deposits reduced from 4,000 to 1,000, in 1886, and again to 500 francs in 1893. The maximum pension that could be obtained was also reduced from 1,500 to 1,200 francs. In explanation of what is meant by the limitation of the amount of deposits that can be made by the same individual during a year, it should be said that the system of premium payments is radically different from that practised by private companies. In the latter a fixed policy is contracted for, and regular premium payments made upon it. This system is not adapted to the working classes. The uncertainty of their earnings deters them from entering into engagements to pay stated sums at stated periods. Under the state institution, therefore, each one makes payments as he is able to do so; and the value of the pension he will ultimately receive is increased each time that he makes a payment. The recent restrictions, it is evident, have for their purpose to limit the operations of the institution more strictly to the laboring classes, and prevent its use for purely investment purposes by the well-to-do classes.

Two other important changes introduced by the law of 1886 should be noted. Prior to this date the rate of interest according to which pensions were calculated could only be changed by an act of the legislature. This

lack of elasticity menaced on several occasions the prosperity of the bank. The act of 1886 changed this, and directed the administrators of the bank to fix during the December of each year the rate applicable during the succeeding year, taking as their basis the average rate earned by the securities in their possession. The second change had for its object to increase the independence of the bank. The system had been that, as soon as the right to a pension accrued, the bank transferred to the *caisse des dépôts et consignations* securities sufficient in amount to secure the payment of the annuity, according to its calculations. In 1886 this was changed, and complete autonomy was given to the bank. This was a great improvement, in that it put the bank upon a more scientific basis, by allowing it to calculate more accurately the relation between receipts and expenditures.

We cannot enter into the history of this institution. As showing its operations, however, it may be stated that during the year 1898 there was paid into the bank for the constitution of pensions the sum of 44,543,693 francs. Much the greater part of this sum came from large companies, which made use of the bank for the insurance of their employees. At the end of the year 231,071 persons were in receipt of pensions to the total amount of 34,458,491 francs. The average pension was therefore 149 francs.

Important as this work is, it is seen from these figures that, after all, the bank reaches but a small proportion of the French workingmen, and that, probably, not the portion the most in need of such provision for their old age. The problem of old-age insurance in France—that is, of creating a general system to embrace practically all workingmen of the country—is, therefore, still an open one, and to-day constitutes one of the most important social measures actively considered by the French Parliament. We have mentioned particularly the legislation

in regard to the national insurance bank, inasmuch as it constitutes the point of departure for practically all measures now being brought forward for the provision of old-age and invalidity insurance. These proposals in general provide for the continuation of the bank, but introduce the important principle that the insurance of employees in it shall be compulsory instead of voluntary, distributing the expense of premium payments in various proportions upon the state, the employers, and the workmen themselves. That definite action in regard to this matter will sooner or later be taken is one of the certainties of the future.

*Life and Endowment Insurance for Workingmen.* At the same time, July 11, 1868, that the national bank for insurance against accidents was created, a similar institution was founded for providing life insurance (*caisse nationale d'assurance en cas de décès*). The act in relation to the housing of the working classes, it will be remembered, provided that use might be made of this institution for insuring the lives of persons purchasing houses on the instalment plan. By act of July 17, 1897, its sphere of activity was still further extended by the provision that it might issue contracts for "mixed insurance," or that where the policy was payable either upon the death of the insured or upon his reaching the age agreed upon in the contract. Mutual aid societies were authorized to insure all their members collectively or individually in this way. The maximum policy was limited to 3,000 francs, and the age at which the policy should be payable could not be greater than sixty-five years.

The operations of this institution have been extremely limited. During 1898 but 99 policies of all kinds were issued to individuals for a total capital of 176,487 francs, and but 74 policies for collective insurance to mutual aid societies embracing 13,955 members.

*Insurance of Miners.* In the immediately preceding

sections we have considered only that legislation having for its purpose the creation of general systems of insurance. On June 29, 1894, however, a very important insurance law was passed, which relates to the special class of mine employees. This law is a radical measure, intended to settle once for all the question of the insurance of miners. For this class of the laboring population the principle of compulsory insurance is definitely adopted, and under it all mine employees are now obligatorily insured against sickness and old age and invalidity. The Workmen's Compensation Act of 1898, we have seen, provides for their compulsory indemnification when injured by accidents. The provisions of this important law can be briefly summarized.

The insurance of all mine employees against both sickness and old age and invalidity is rendered compulsory upon all mine operators. The two operations of old age and sick insurance are kept distinct. To provide for the first, each mine operator is required to pay into the insurance funds, provided by the act, a sum equal to four per cent. of the total amount paid by him in wages, one-half of this amount to be borne by himself, and the other half to be deducted from the wages of the employees. This percentage can be increased if mutually agreed upon by the employer and the employees. The sums thus set aside are devoted to the constitution of a fund from which old-age pensions will be paid. The option is given to the mine operators to make these payments directly to the national old-age pension bank or to create special independent funds. In the latter case these funds are subject to rigid oversight on the part of the government as regards the investment of their funds and the nature of their constitutions. In all cases, however, the value of the pension is determined according to the tables in use by the state institution. The amount of the pension is, therefore, in proportion to the amount of the earnings of each individ-



ual workingman. Those employees, however, who earn more than 2,400 francs (\$463.20) yearly are considered for the purpose of insurance as earning only that amount. The age at which the right to a pension begins is fixed at fifty-five years, but can be deferred to a later age if desired, in which case of course the value of the pension will be proportionately increased.

For the insurance of miners against sickness, it is made obligatory upon each mine-owner to create an aid or sick insurance society, the resources of which are made to consist of (1) a deduction from the wages of each employee of an amount to be determined by the administrative council of each society, but which cannot exceed two per cent. of the wages received, (2) an equal contribution on the part of the employers, (3) the proper proportion of the subsidies granted by the state to mutual aid societies, (4) gifts and legacies, and (5) the product of fines levied for any purpose by the employers upon the employees. It is left to the constitution of each society to determine the nature and amount of relief to be granted to members in case of sickness or to their families in case of the member's death. The societies are also permitted, if their resources are found to be sufficient, to grant medical aid and furnish medical attendance to the wives and families of the members.

It will be seen from this résumé that great elasticity was given to the system. As regards sickness, it practically makes it obligatory upon the mine operators only to see that mutual aid societies are organized among their employees and to contribute to their support. As regards old age and invalidity insurance, the mine-owners are given the option of creating independent insurance funds for that purpose, of joining with other operators and forming a mutual insurance institution, or of making use of the state old-age insurance bank. The financial obligations thus imposed upon mine operators were in practice

much mitigated by the fact that many of the most important mining companies were already voluntarily maintaining such insurance funds.

Returns of the operations of this law are now available for the three years 1896, 1897, and 1898. In the last year payments were made to the old-age insurance bank for the constitution of pensions on account of 245,587 mine employees. The number in 1897 was 218,127. For the provision of indemnities in cases of sickness one hundred and ninety-one funds had been established at the end of 1898. The membership of these funds was 164,434 as against one hundred and ninety funds and 138,770 members in 1897. The total expenditures were 5,077,869 francs.

*Insurance of Mariners.* Articles 262 and following of the commercial code, as modified by the law of August 12, 1898, makes it obligatory upon ship-owners or masters to care for sailors becoming ill during the course of a voyage.

The law of April 21, 1898, provided for the organization of a special national insurance institution for the insurance of all mariners against accidents incurred during their work. This institution is annexed to the *caisse des invalides*, though it has an independent operation, and is under the general direction of the ministry of the marine.

It is hardly desirable to enter into a detailed description of the system here created. The important features are: that the insurance of all mariners is obligatory; that the funds necessary for the support of the system are derived from contributions from the mariners themselves and their employers, from gifts or legacies, and, if necessary, from advances by the government. The operation of the system is in fact guaranteed by the government. The dues required from the sailors or fishermen are fixed at half the amount retained from their wages or earnings for the support of the fund for invalids, but can in no case exceed 2 francs per month. The contributions of the

employers must equal that of the dues collected from mariners on board their vessels. An exception is made in the case of persons engaged in fishing and piloting on a small scale. In their case the dues required are three francs in some cases, and four francs in others per person employed per annum.

*Regulation of Employers' Funds for the Insurance of Workingmen.* The extent to which employers of labor in France have voluntarily created institutions for the insurance of their employees against sickness, accident, or old age and invalidity, is well known. Commendable as this action was, many such institutions were organized with such a disregard of actuarial principles and of adequate safeguards that their ultimate inability to meet engagements, with the consequent hardship to their members, was a certainty. Prior to 1895 these institutions were subjected to no legal regulation having in view the prevention of such mistakes. To remedy this, the French Parliament passed the law of December 27, 1895.

This law is, if anything, a too radical measure, as it takes away a great part of the freedom of action of employers. It provides in the first place that workingmen who are members of provident funds established for their benefit by employers shall have a prior lien on the property of the latter for all claims they may have in such funds in case of the employers' failure or liquidation. In the same way they can demand the restitution of all funds in such institutions which are not utilized according to the requirements of the constitution.

The act, however, is specially directed to the regulation of old-age pension funds. Regarding these it provides that all moneys retained from the wages of employees as well as all moneys that the employers have agreed to contribute for the support of these funds must be deposited either (1) with the *caisse des dépôts et consignations*, where it will bear the same rate of interest as that allowed on sav-

ings-banks deposits or (2) with the National Old-age Insurance Bank, in the way of payments for the insurance of the employees; or (3) with duly authorized insurance funds specially created by the employers acting either alone or collectively. If the latter practice is followed, the organization of the fund must be duly approved by the government, and the funds must be invested in certain specified classes of securities, such as state departmental or communal bonds, obligations of chambers of commerce, the *crédit foncier*, loans secured on collateral or in the obligations of pawn-shops or other institutions recognized as of public utility existing in the departments where the funds are located. The management of these funds is also subject to government supervision. Altogether it will be seen that funds created by employers for pensioning their employees are subjected to a very strict system of government control.

In the foregoing the attempt has been made to describe only the important labor acts passed during the past thirty years. There have, of course, been others dealing with minor points. Such, for example, are those of July 2, 1890, abolishing the obligation of the workingmen's pass-book (*livret ouvrier*), of January 12, 1895, exempting wages from seizure except to the extent of one-tenth, of August 8, 1893, restricting the employment of foreign workingmen, besides special laws relating to particular industries, such as railways and mining. There has also been a large volume of social legislation relating indirectly to labor matters, such as the law of July 20, 1895, reorganizing savings-banks, the law of April 9, 1881, creating a postal savings-bank, and the laws of November 5, 1894, and March 31, 1899, favoring the development of mutual agricultural credit institutions.

Looking back now at the labor legislation of the period as a whole, it cannot but be considered as remarkably com-

prehensive. Whatever may be the shortcomings of the French legislature, it has certainly appreciated the importance of the labor problem in the country and the duty of the government towards it. There are few important fields of reform in which state action could be of avail that it has not been exerted. For the fundamental regulation of labor it has created detailed factory and mining codes, setting forth in specific terms the conditions that must be observed to prevent accidents and preserve the health and comfort of employees. It has restricted the employment of women and children, prohibited Sunday and night work in factories, except as absolutely necessary, and more than all has, by successive laws, organized a central system of factory inspection, with an adequate corps of inspectors to see that the provisions of the law are rigidly enforced.

Regarding the great problem of industrial conflicts it has passed laws making possible and encouraging the voluntary arbitration or conciliation of all differences between employers and employees. The law goes as far in this direction as seems possible under the present organization of industry. Concurrently with this the old restrictive laws preventing the free association of workingmen, either for the purpose of jointly making demands upon their employers or of forming associations for the purpose of their mutual advantage, have been repealed, and the workingmen given a liberty comparable with that existing in Great Britain and America.

For the securing of information concerning labor conditions and affording all classes an opportunity to make known their opinions and wishes, few countries have gone as far as France. In the superior and local councils of labor and in the councils of prudhommes both employers and employees can freely bring forward their demands and have them subjected to careful consideration. The labor bureau has proven an exceptionally energetic body, and its

reports have exerted a great influence in promoting necessary legislation. The law for the promotion of the organization of societies for providing cheap and sanitary houses for the working classes has been an exceptionally well-devised and successful measure.

It is in the field of workmen's insurance, however, that the most notable action has been taken within recent years. The existing institutions for old-age and invalidity and for sick insurance have been thoroughly overhauled and reorganized, so as to conform to modern ideas of insurance principles. A revolution has been enacted in regard to the vexed question of accidents to labor. The old idea of limited employer's liability, so unsuited to modern conditions, has been absolutely rejected, and in its place the system inaugurated whereby all employees are compulsorily indemnified by their employers for all injuries received by them while at work, if not brought about by the grossest carelessness or intent. For the important class of miners, whose conditions are peculiar, a complete system of compulsory insurance against old age, invalidity, and sickness, has, in addition, been provided.

The above record is one with which France can fairly be proud: she has fully kept pace with the other industrial nations of Europe. In her action there are one or two general characteristics that are of great significance to the student of methods of social reform. Though accomplishing the most important and salutary changes, these measures have in most cases been thoroughly conservative as regards direct state action. It is little short of remarkable to notice that, in spite of the great socialistic agitation which has characterized this period, the mode of action advocated by it has received to so slight an extent any indorsement in the legislation actually enacted. We are accustomed to think of France as a country in which governmental interference is carried to an extreme. Yet in her labor legislation we have seen all measures looking

towards the direct action of the state defeated all along the line. The tremendous pressure brought to bear upon the Parliament for the compulsory insurance of workingmen by the state has been successfully combated. All efforts looking to the direct construction of houses for the working classes by governmental authorities, either central or local, have been defeated, and a measure enacted whose purpose is merely to encourage private initiative. Plans for compulsory state arbitration of labor disputes have likewise been rejected. It is the contest between the principles of state and private action which has thus been fought in regard to almost all measures of social reform coming before the French Parliament, and the triumph of the latter, that is the feature of fundamental interest in this history of a quarter of a century's social reform.

WILLIAM FRANKLIN WILLOUGHBY,

HARVARD UNIVERSITY.

### CLARK'S DISTRIBUTION OF WEALTH.\*

For several years it was known that Professor Clark had in hand the preparation of a book which should set forth in systematic form his theory of distribution, fragments of which had appeared from time to time in various journals. The publication of this long-expected volume was accordingly welcomed eagerly by students of economic theory. From what Professor Clark had previously written it was certain that the work would be a notable contribution to the literature of political economy. Indeed, many of his followers had predicted that it would at once take rank with the half-dozen or so leading works on the subject. Unfortunately, there are too many things in the book which are calculated to provoke controversy to permit a universal ratification of this prediction. Nevertheless, every candid reader, of whatever school or shade of opinion, must admit that the author does not lack originality and acumen, and that his conclusions are developed in a masterly manner, and expressed in a clear and forcible style.

It is in the department of distribution that economics borders most closely upon ethics, and Professor Clark neither ignores the ethical bearings of his theory nor commits the more serious blunder of confusing economic with ethical problems. From his point of view, the justification of the social order depends upon whether it can be shown that, under normal conditions, what goes in payment for each agent of production is the product of that agent, or that "free competition tends to give to labor what labor creates, to capital what capital creates, and to the *entrepreneurs* what the co-ordinating function creates."

Clark  
To each agent a distinguishable share in production, and to each a corresponding reward — such is the natural law of distribution. This thesis we have to prove; and more hinges on the truth of it than any introductory words can state. The right of society to exist in its present form, and the probability that it will continue so to exist, are

\* *The Distribution of Wealth: A Theory of Wages, Interest, and Profits.* By John Bates Clark. New York: Macmillan Company. 1899. pp. 445.



at stake. These facts lend to this problem of distribution its measureless importance. . . . The indictment that hangs over society is that of "exploiting labor. . . . If we are to test this charge, however, we must enter the realm of production. We must resolve the product of social industry into its component elements in order to see whether the natural effect of competition is or is not to give to each producer the amount of wealth that he specifically brings into existence." (p. 3.)

The defence of the system of competition would therefore resolve itself into the two following propositions :—

1. Each agent of production ought to command that share of the product of social industry which it specifically has brought into existence.

2. This is what actually takes place under competition.

The first of these propositions involves ethical principles, and is not discussed at all. To the defence of the second, which involves no ethical considerations whatever, the book is principally devoted.

Unfortunately for this line of defence the single taxer, without being inconsistent, and even the socialist, might admit both propositions and yet demand fundamental changes in the social order. The author's argument relates wholly to functional distribution, and leaves the more vital question of personal distribution untouched. The disciple of Henry George might therefore admit that the land creates a definite share in the product, and at the same time deny that the landlord had any part in it. He might also admit that the land ought to be paid for on the basis of its productivity, and deny that the private landlord should receive rent. The alternative would be to allow the State to receive the share which is attributable to land. The socialist might take the same position as to all instruments of production. The right of the present social order to exist depends upon the laws which govern not functional, but personal distribution. Our only interest in functional distribution is due to the light which it throws on the vastly more important question of personal distribution. We need to be shown that the tendency of the present social order is to give to each individual producer the share which he individually creates, and no more.

Whatever may be thought of the author's argument as a defence of society, it is doubtful if his main thesis can be successfully assailed in the present state of economic knowledge. Bearing in mind that he is discussing functional distribution only, and personal distribution not at all, that he maintains only that the tendency of competition is to give to the owner of each factor of production the share which that factor specifically has produced, and not to each person what he individually has produced, he cannot be charged with ignoring certain manifest forms of unearned income. In supporting his thesis, he is not obliged to maintain that the heir to a fortune is himself the producer of the income which he receives, but only that his income is the product of his capital. Nor is he obliged to maintain that an idle landlord is himself the producer of the rent which he receives, but only that this rent is the product of his land. Nevertheless, it is to be regretted that more than once in the course of his argument he implies conclusions relating to personal distribution which form no part of his thesis and which by no means follow from his argument. These and such other parts of the work as are open to serious criticism do not seem to the present writer to be essential to the author's main thesis. Their examination will, therefore, be taken up after this thesis and the author's method of supporting it have been explained. So far as the strictly constructive part of the work is concerned, it is practically above criticism; though the captious critic would doubtless find grounds for criticism even here if he were so determined.\*

"In that original state of things," says Adam Smith, "which precedes both the appropriation of land and the accumulation of stock, the whole produce of labor belongs to the laborer. He has neither landlord nor master to share with him." It is Professor Clark's contention that not only in "that original state of things," but in the present state of things, the whole produce of labor goes to the laborer. The capitalist† does

\* Cf. "J. B. Clark's Formule of Wages and Interest," by Mr. R. S. Padan, in the *Journal of Political Economy* for March, 1901. Mr. Padan is led astray apparently by the purely accidental circumstance that Professor Clark happened, on p. 261, to draw two diagrams exactly alike.

† Professor Clark refuses to distinguish land from other instruments of production, but includes them all under capital, for reasons which will be examined later.

not share with the laborer in the product of labor, but takes only the product of capital. He does not engage in a labored argument to prove that capital is productive, it being taken for granted that tools and other instruments are useful, and enable the community to produce more than it could without them, and that this is the only sense in which anything can be said to be productive. However, Professor Clark is by no means to be accused of resting his case on this crude observation and method of reasoning. Quasi-economic literature is already full of different versions of the argument that all wealth is the product of labor, because none could be produced without labor. By the same process, all wealth could be shown to be the product of land, or of capital. What needs to be done is to point out a method of distinguishing between the product of the various factors of production. On this point, Professor Clark's discussion is a model of clearness and conclusiveness, to which it would be impossible to do justice without reproducing it.

It is obvious that the "method of difference" is the only method adequate to the task of distinguishing between the products of labor and of capital. Some way must be found by which we can observe the variation in the product which follows a variation in the factors of production, and these variations must both be approximately measurable. Under any rational theory of causation the variation in the product must then be attributed to the variation in the factor. Without some such method as this it would be as impracticable to try to distinguish the product of labor from that of capital as it would to distinguish the product of the upper from that of the nether millstone. Some such method is, according to the author, actually carried out in the industrial world. However, it must be borne in mind that it is not labor in general, nor in the abstract, but specific units of labor, that are bargained for and for which wages are paid. Similarly, it is not capital in general, nor in the abstract, but specific units of capital for which interest is paid. Therefore, we have not to determine the product of labor in the abstract, nor of capital in the abstract, but of specific units of labor considered separately and of specific units of capital considered separately.

As to labor the question is, How much does a given unit of labor add to the total product of social industry by working, or how much does it take from the total product by not working? Find out this amount, and you have the product of one unit of labor. By a process exactly similar you may find the product of a unit of capital. Multiply the amount thus obtained in either case by the number of working units of the factor in question, and you get its product.

This method, it must be observed, would give for a single unit of either factor a result very different from that obtained by taking the total product of social industry, and dividing it by the number of units. This difference is due to the fact that the power of any individual unit (of labor, for example) to affect the total product is gauged by the power of a marginal unit, or the unit that is employed in the least effective place relatively to the instruments of production and the opportunities for labor. Relatively to land, for example, it must be considered as working upon the no-rent land or upon the no-rent margin of the better grades of land. Even though the particular unit in question does not itself work upon either place, its addition to the force already at work will cause such a shifting about of the other units as to crowd some other unit on to the margin, or its subtraction from the force already at work will cause such a shifting about as to withdraw one unit from the margin. In either case the net increase or decrease in the product of the whole industry is the amount that can be added by a unit working on the margin, or subtracted by a unit withdrawing from the margin. This amount, under the author's theory of economic causation, is the real product of a unit of labor. Reducing the argument to more formal terms than he himself attempted, it may be stated as follows: If the total product of a certain community, or of a certain industry, is  $x$ , and the addition of another unit of labor to the force already at work makes the product  $x + y$ , or the subtraction of one unit from the force makes the product  $x - y$ , the product of one unit of labor is  $y$ . With that unit,  $y$  is; without that unit,  $y$  is not: therefore, that unit is the cause of  $y$ . This amount is all that a unit of labor is worth on the market: it is the maximum amount

which any employer can afford to pay. At the same time it is worth so much; and under perfect competition the employer will have to pay so much. This part of the argument, however, can be anticipated by any one at all familiar with the theories of marginal utility and marginal productivity.

The author extends the theory of marginal cultivation over all instruments of production. There are no-rent instruments of various kinds, of which land is only one. Moreover, there is a no-rent intensive margin of cultivation of other instruments as well as of land. The extensive margin of land cultivation is, therefore, only a single point upon a much broader margin where the laborer can be independent of the capitalist and get the whole produce. Therefore, the author rejects the "squatter-sovereignty" theory, which ascribes to the laborer on the no-rent land the power to fix the wages of all labor. The returns from such labor may serve as an indicator; but they have no more power over wages than do the returns from labor at any other point on this broader margin.

Though it has no direct bearing on the main line of argument, it is interesting at this point to notice the author's suggestion as to the diffusion of the unearned increment from land. Granting that "wages in America have been made to conform to the amount that homestead settlers can make by availing themselves of the offers of the government," yet "the settler gets more than the income that comes to him in the shape of crops. The rising value of land enters directly into his gains; and it enters directly into the pay of the artisans and others who are held in the mills and shops by pay that is approximately equal to the settlers' gains. Land values thus diffuse themselves everywhere."\*

It is in the more formal and descriptive parts, rather than in the constructive parts of his argument, that the author departs most widely from the beaten paths. Here also, in the opinion of the present writer, he is most subject to criticism. In his discussion of the place of distribution within the natural divisions of economics, he makes an interesting addition to the already long list of schemes for the subdivision of the science. Every such scheme must of course be based upon a classifica-

\* Pages 86, 87.

tion of some group of phenomena which is, for the time at least, regarded as of fundamental importance. The division into the traditional four departments is based upon a classification of the physical *processes* through which economic goods are seen to pass in the world about us: they are actually produced, exchanged, distributed, and consumed. Professor Marshall's scheme of subdivision, as shown in his *Principles of Economics*, seems to be based upon a classification of the *forces* which play in the economic world and which control the processes. In his article on "The Method of Political Economy," in Palgrave's Dictionary of Political Economy, Mr. W. E. Johnson suggests a scheme which is evidently based upon a classification of the *tasks* which the expositor has to perform. It would be possible to devise any number of schemes based upon the classification of different groups of phenomena; but it is unnecessary to attempt here to catalogue them all. Professor Clark's scheme is based upon a classification of the *conditions* under which economic activities are carried on. These conditions are either isolated or social, and they are either static or dynamic. Therefore, the four "natural divisions" are, according to the author: 1. Isolated static; 2. Isolated dynamic; 3. Social static; 4. Social dynamic.\* Distribution comes under the third of these divisions.

It is evident that there are no "natural divisions" of economics, if by that expression it is implied that the subject naturally divides itself into departments regardless of the purpose or the convenience of the expositor. For his own convenience, or for purposes of his own discussion, it would have been quite competent for the author to subdivide the subject to suit himself. But, when he attempts to subdivide the whole field of economics into its "natural divisions," he implies, at least, that his is a better scheme for the general writer than the traditional one, or that the group of phenomena upon whose classification his scheme is based is of more fundamental importance than the group upon which the traditional scheme is based. This he has not satisfactorily shown. While no absolute rule can be laid down, yet it is in harmony with

\* Page 35. In order to reduce the number of divisions to three, Professor Clark unites the first and second in one, which is to embrace the universal phenomena of wealth.

general scientific usage to subdivide a subject on the basis of the things to be explained rather than on the basis of the forces, the concepts, or the conditions which help in the explanation. This rule has already the sanction of long usage in economics, for the *processes* of wealth creation and utilization are the things to be explained. What is more to the point, a scheme of subdivision based upon a classification of processes will be found to be of greater assistance to the investigator and the expositor.

The chief difficulty with the traditional four departments is that they do not sufficiently differentiate the psychical from the physical processes. This is easily remedied by a more complete classification of the processes, without changing the basis of classification at all. The most fundamental division is that between the physical processes by which goods are produced and finally brought to their ultimate form and purpose, and, on the other hand, the psychical processes by which values are estimated. These two processes go on side by side, to be sure, and each is conditioned by the other; yet they are sufficiently distinct to permit of separate treatment for purposes of investigation and exposition. Under the physical processes come the special processes of production, exchange, distribution, and consumption, of which special departments may still be made. The departments of production and consumption should contain essentially the same material as at present. The department of exchange should be confined to an explanation of the processes and the methods, the mechanism and the media by which transfers of goods are effected. The department of distribution should be confined to a description of the various processes and methods by which shares are apportioned, and of the various forms of remuneration, under different systems of industrial organization.

Since the psychical process consists in estimating values, it may not improperly be called the process of valuation. Under this come two special processes, the valuation of commodities and the valuation of services. All economic goods have a commodity value, usually expressed as their selling price. Most goods that last for a time are capable of furnishing a flow of services (or utilities); and these services also have a value,



variously expressed as certain shares in distribution. Thus land, for example, has its commodity value, usually expressed as its selling price, while the services which land renders also have a value, usually expressed as rent. Except where slavery survives, the laborer has no commodity value,—he is not evaluated; but his labor, which consists of a flow of services, has a value, usually expressed as wages. When we have arrived at an explanation of the process of valuation, we shall have a theory of value. This theory, however, should explain the whole process, and not simply that part which consists in evaluating commodities. The theory which explains the process of evaluating services will be that which is commonly called the theory of distribution.

A little further analysis reveals that services are either direct or indirect. For example, labor may be devoted to personal service or to production. In the former case the service is direct; in the latter, indirect. Land may be used for dwelling sites or landscape gardens and the like, or it may be used for production. In the former case the service is direct; in the latter, indirect. Produced goods may also be used directly, as when a house is used as a dwelling, or they may be used indirectly, as when the house is used as a shop. Direct services are valued according to the direct gratification they are capable of furnishing. Indirect services are valued only according to the other sources of gratification (goods) which they are capable of producing. This way of looking at the question makes the problem of distribution much simpler than it can possibly be made under Professor Clark's scheme. It enables one to explain the wages of personal service and the rent of land or other goods for purposes of consumption, without carrying the process of abstraction beyond the danger limit. It is more than doubtful if the same can be said of Professor Clark's scheme. If wages are the specific product of labor, what is the specific product of the musician's labor? Certain air vibrations which have value. If rent is the specific product of land, what is the specific product of a landscape garden? Certain ether vibrations which have value. What is the specific product of a hired article of wearing apparel? Doubtless even this could be answered if it were



worth while. The net result of this process of reasoning is to show that *value* is the thing produced. When this value is embodied in nothing more substantial than certain ether vibrations whose very existence is only inferred on a physical hypothesis, it would seem wiser to consider the value of the service directly than to attempt to consider the value of the ether vibrations which result from the service.

It is a part of the author's scheme of subdivision to reduce the problem of value to a special problem of distribution under the name of group distribution. The value of a product determines the gross income of the whole group engaged in its production, whereas the division of this gross income among the different classes of producers within the group is the problem of functional distribution. The suggestion is interesting and may possibly prove useful, though its usefulness does not appear on the surface. No particular difficulty is met with, so long as our attention is directed towards the value of products of industry; but it would require some subtle analysis to reduce the value of a natural agent, such as land, especially of land not used in production at all, to a question of group distribution.

Probably the most unsettled question of economic theory at the present time is that of the nature and function of capital. It is upon this subject that Professor Clark is most startlingly original, and, in the opinion of the present writer, least satisfactory. The initial difficulty is to find out just what he means by capital. His first statement seems definite and concise enough. "Capital consists of instruments of production, and these are always concrete and material. This fact is fundamental."\* "The capital of the world is, as it were, one great tool in the hand of working humanity—the armature with which humanity subdues and transforms the resisting elements of nature."† From this it is evident that capital consists of material things. Yet material things perish or wear out, while capital, according to the author, does not. "The most distinctive single fact about what we have termed capital is the fact of its permanence. It lasts;

\* Page 116.

† Page 117.

and it must last, if industry is to be successful."\* Does this simply mean that wisdom requires the community to keep its fund of capital from depletion by continually replacing its worn-out instruments with new ones, or does it mean that capital is endowed with a kind of indestructibility, and does not need to be continually re-created by repeated acts of saving or by repeatedly waiting for the product of new instruments that are made to replace the old? Evidently, the latter; for, continuing, he says:—

Again, capital is perfectly mobile; but capital goods are far from being so. It is possible to take a million dollars out of one industry, and put them into another. Under favorable conditions, it is possible to do this without waste. It is, however, quite impossible to take bodily out of one industry the tools that belong to it, and put them into another. The capital that was once invested in the whale fishery of New England is now, to some extent, employed in cotton manufacturing; but the ships have not been used as cotton mills. As vessels were worn out, the part of their earnings that might have been used to build more vessels was actually used to build mills. The nautical *form* of capital perished; but the capital survived, and, as it were, migrated from the one set of material bodies to the other.†

This sounds very much as though capital were immaterial. Again:—

We may think of capital as a sum of productive wealth, invested in material things which are perpetually shifting—which come and go continually—although the fund abides. Capital thus lives, as it were, by transmigration, taking itself out of one set of bodies, and putting itself into another again and again.‡

Though he distinctly disclaims the notion that capital ever lives in a disembodied state, it yet seems from these passages that capital is some form of spiritual essence different from the goods which it inhabits, even though it cannot live entirely apart from goods.

A somewhat different idea, which may help to explain the whole matter, is gained from the following:—

Make an inventory of all the concrete instruments of production that the world contains, including in the list every commodity that helps to produce other commodities, and putting opposite the name

\* Page 117.

† Page 118.

‡ Pages 119, 120.

of each article the sum that in a year it can earn for its owner. Add together all these sums, and the gross amount is the total income of the property-holding class, as this income is reduced to the form of rent. Now take a different course. Make the same inventory of capital goods as before, appending to the name of each article the value that it embodies. Add together these values, and the grand total will describe the permanent capital of the world. Find what part of itself this fund will earn a year, and you have the *rate of interest*.\*

From this it would appear that capital is the fund of *value* which is embodied in capital-goods. Elsewhere he speaks as though capital were the *fund* of capital-goods, as distinguished from the goods themselves, using the illustration of a reservoir which is conceived of as an entity distinct from the particles of water which it contains. This seems to be the conception which he consciously adopts; yet more frequently he writes as though he had unconsciously adopted the conception of capital as a sum of value embodied in capital-goods. Interest is distinctly conceived of as a sum of value and as a percentage of the capital which earns it. A sum of value can manifestly be a percentage of nothing else than another sum of value. This idea so persistently reappears during the course of the author's argument that one is compelled to believe that, after all, his real concept of capital is that of a sum of value embodied in capital-goods. Beyond the mere statement of it, there is practically nothing to indicate that he regarded capital as a *fund* of capital-goods to be distinguished from the goods themselves. Besides, it is difficult to see what use he could possibly have made of such a concept.

The effort to distinguish between capital and capital-goods seems to be simply an attempt to distinguish between a quantitative measurement for capital and the capital itself. Things are measured, of course, by selecting a single property which they possess in common, such as number, extension, or specific gravity, and comparing them on the basis of this property. When we want to say how much there is of a certain thing, we express it in terms of the property according to which it is commonly measured. This is true of wealth and capital as of other things. The primitive herdsman, if asked the amount

\* Page 124.

of his wealth, would doubtless have answered an hundred head or two hundred head, as the case might be. The primitive agriculturist, whose wealth consisted of wheat, might have answered in terms of cubic contents, as so many bushels. It is conceivable, though improbable, that both might have united upon specific gravity as the basis of measurement, and have answered in pounds. But the change to specific gravity as the basis of measurement and quantitative expression would not have changed one whit the nature of their wealth or their capital. Nor would it have made either clearer or less clear the distinction between capital and capital-goods.

As a matter of fact, value, being the one property common to all forms of wealth, has long since been selected as the property according to which all wealth is to be measured, and in terms of which quantities of wealth are always to be expressed. When asked *how much* wealth they have, men will reply, so many dollars, just as the herdsman would have answered, so many head. When asked *in what their wealth consists*, they will enumerate the goods, just as the herdsman would have enumerated his animals. Capital, being a form of wealth, is measured, and its quantity is expressed, in precisely the same way. Does this change in the basis of measurement change in the slightest degree the nature of capital? By no means. When asked how much capital they have, men will express it in dollars; but, if asked in what their capital consists, they will enumerate the instruments. The instruments are the capital, and the amount of value in them is not the capital.\*

Every distinction which Professor Clark has made between capital and capital goods can be made with equal clearness and with equal justice between the herdsman's hundred head and the animals composing it, between the farmer's bushels and the wheat which they contain, or between the pounds of wealth, on the one hand, and the animals and wheat, on the

\*Certain recent writers have come very near this truth, but have just failed to reach it. See especially Tuttle, "The Wealth Concept," in *Annals of American Academy of Political and Social Science*, vol. 1, pp. 615-634, and "The Fundamental Economic Principle," in this Journal for February, 1901; also, Fetter, "Recent Discussion of the Capital Concept," in this Journal for November, 1900. Both writers have confused the expression for the quantity of a thing with the thing itself.

other. First, as to the permanence of capital. Does capital abide while capital-goods perish? Or is it only the quantitative expression for capital which remains, while capital, the thing measured, perishes? Evidently, the latter. Though animals perish, the amount of the herdsman's wealth, measured numerically and expressed, for example, as an hundred head, may remain. Is it the same wealth? Not unless it is the same hundred head. Though wheat perishes, the amount of the farmer's wealth, measured in cubic contents and expressed, for example, as a thousand bushels, may remain. Is it the same wealth? Not unless it is the same thousand bushels. Though animals and wheat perish, the wealth of both farmer and herdsman, measured on the basis of specific gravity and expressed, for example, as ten thousand pounds, may remain. Is it the same wealth? Not unless it is the same ten thousand pounds. Though goods of all kinds perish, the amount of wealth, measured on the basis of value and expressed in dollars, may remain. Again, is it the same wealth? The things measured, whose quantity is expressed in dollars, are evidently not the same; and it is only by confusing the measure for the thing measured that it can be said to be the same wealth.

It may be objected that value is not only the property common to all economic goods, but that it is the property which makes them wealth; that it is because of their value that they are wealth; that they are wealth only to the extent of their value; and that wealth is therefore really a quantity of value. It is true that, under present conditions, the individual producer is interested in producing value, and not bushels or pounds. Since he does not usually consume the identical things which he produces, he is well off in proportion to the value of his products. This, again, merely means that he expresses the quantity of his wealth in dollars, and not in pounds, bushels, or yards; and it in no wise affects the permanency of wealth. To the isolated farmer the desirable quality in his wheat is its nutriment, and not its cubic contents. It is its nutriment which makes it wealth, and he is well off in proportion to the amount of nutriment. Therefore, it may be urged, his real wealth is a quantity of nutriment, and ought

to be so measured and expressed. Still, it could scarcely be maintained that the same nutriment abides, while wheat perishes. From the standpoint of the isolated farmer the desirable property in his oxen (assuming oxen to be typical instruments of production) is their available strength. His real capital might therefore be said to be a quantity of available strength, expressed, perhaps, in foot-pounds. To maintain that the same available strength abides, while oxen perish, would be carrying the theory of the conservation of economic energy too far. The case is not different when capital is expressed in dollars, as it comes to be under social conditions.\*

All that has been said of the permanency of capital can be repeated of its mobility. Since capital consists of capital-goods, it can be neither more nor less permanent nor more nor less mobile than they. The amount or supply of capital (read capital-goods) may be maintained and kept more or less permanent by replacing worn-out instruments with new. Similarly, the amount or supply of capital may increase in one industry while it is decreasing in another. It may even in a sense be enabled to increase in the one because it is allowed to decrease in the other. If the instruments used in one industry are no longer replaced when worn out, the owners are saved that expense, and enabled the more easily to make, or have made, new instruments for use in another. The owners may thus maintain the *supply* of their capital, though the capital itself has changed. All that the author has said about capital and capital-goods would mean quite as much and be far less confusing if he had everywhere substituted the terms "supply of capital" and "capital."

Next, as to the indestructibility or self-perpetuating power of capital, note the following:—

In every case an instrument that is gained by genuine abstinence signifies that the man has more permanent capital than he had before. In due time this instrument will wear itself out; and it will be followed by another instrument. Virtually, though not literally,

\* The author makes so much of the distinction between capital and capital-goods, and holds so persistently to it throughout the entire book, that the reviewer is compelled to devote more space to its examination than would otherwise seem necessary.

it will have created that other instrument; and the second instrument in the series, as well as all the following ones, will have come into existence without further abstaining acts. When a loom in my cotton mill shall be discarded by reason of age and infirmity, I shall not be forced to replace it by trenching upon my income and denying myself goods that I have been accustomed to consume; for, in addition to the net income that the loom has earned for me, it has provided a sinking fund which replaces itself without imposing on me any further burden. Not all the creating of capital goods, then, calls for abstinence. The starting of an entirely new series of capital goods does so; and the abstinence exhausts itself in calling the first one of the series into being, for the later ones are virtually made by the first one.\*

It is not easy to tell just what is here meant. The author seems to imply that abstinence consists in denying one's self goods that one has been accustomed to consume; but this would involve conclusions which he himself would scarcely admit. If the loom in his cotton mill should enable him to consume as much as he has been accustomed to, and furnish him, besides, with a surplus income sufficient to replace it with two new ones by the time it is worn out, both new ones would then be the virtual products of the first one, and would involve no abstinence at all. If the first canoe had enabled Walker's primitive fisherman to eat as many fish as he was accustomed to, and to make ten other canoes during its lifetime, the whole ten would then have been the virtual product of the first. If, from that time on, the community could go on increasing its capital indefinitely without having to consume less than it was accustomed to before the first canoe was made, all subsequent accumulations would then be the virtual product of that first canoe. And if, perchance, the first canoe had been made during such an unusually good fishing season that its maker had not been compelled to consume less than was his custom, abstinence would have been eliminated altogether.

If, however, abstinence consists in denying one's self goods that one has the power and the opportunity of consuming, it becomes perfectly obvious that it enters into the creation of the later instruments of a series quite as truly as into the

first. The providing of a sinking fund with which to replace itself is precisely what the loom in his cotton mill does *not* do. What it does is to provide an income for its owner, and the owner has a perfectly free hand to do with this income as he chooses. It is all alike, and no part of it bears any mark by which it can be distinguished as sinking fund. Even if the owner decides that he will set aside such a fund, he cannot tell exactly how much is necessary, but must make an estimate of the average rate of deterioration, or of the average lifetime, of a loom. If a sinking fund is accumulated at all, it is only because the owner definitely decides to consume less than he has the opportunity and the legal right of doing, and to set aside a part of his income for that purpose. Whether he so decides or not will depend largely upon his character. If he is reasonably thrifty, he will not consume all his income, and allow his capital to become depleted. If thrift is a strong characteristic, he will not only save enough out of his income to replace his worn-out instruments, but will provide for an increase in the total amount of his capital. But the act by which he increases his supply does not differ in the least from the act by which he keeps his supply intact. Capital, in other words, has no such self-perpetuating power as the author attributes to it, but has to be continually recreated by repeated acts of saving.

Even more remarkable is the following : —

Let us, for example, plant a forest of such slow-growing trees that it will take fifty years to bring one of them to the point of maturity at which it will be ready for cutting. . . . After fifty years the cutting begins; and now all waiting is over. We may cut every year a row from the ripe end of the forest, and plant a row at the opposite end. From this point on, the long period involved in the ripening of the trees loses its importance. The setting out of a new row of trees is now a very different thing from the planting of the original row fifty years ago; for, in a sense, the present planting yields firewood at once. It replaces the row that we now cut, and prevents this cutting from trenching at all on the capital represented by the forest; and it would have this effect if the trees required five hundred years for maturing instead of fifty, provided only that there were, in that case, five hundred rows in the forest. As tree planters, even in that case, we should have no more waiting to do than we



should now have if we could sow acorns, and, by magic, cause them instantly to become oaks five centuries old.\*

The author seems to think that there is some connection between the planting of a new row of trees and the opportunity to use a row of matured trees, whereas there is no connection at all. It is true that we can plant a row each year *and* cut a row each year, but we could cut the matured row whether we planted the new row or not. The reason we are able to cut trees without further waiting is because some one has already waited. If, after cutting a row, we plant a new one, we do so by diverting some of our labor from other employments which might yield immediate returns. Occupying ourselves in these other employments would not reduce our present stock of wood and lumber in the least. The results of labor devoted to planting a new row must be waited for as truly as the results of the labor that planted the first row. It is true that, under the present organization of industry, the row that is just planted has a value and can be sold for a price, thus enabling the planter to realize at once on his labor. The same could be said of the first row immediately after its planting. But it must be borne in mind that the new row, in either case, would command a price only on condition that some one could be found who was willing to advance the price, and himself wait for the product to mature.

The following passage is still stronger, and still farther from the point:—

Again, let a forest twenty acres in extent suffice to furnish firewood for a family. A tree will mature in twenty years; and the forest must be kept intact, in point of size and maturity, or the supply of wood will fail. Each year we plant a row of trees along one side of the forest, and cut a row from the other. The planting and the cutting are, in a way, simultaneous. We do not burn to-day the tree that we plant to-day; but we do burn a tree, the consuming of which is made practicable by to-day's planting. The tree that is just set is, then, an enabling cause of the consuming of one that is twenty years old. To plant a sapling and wait for it to mature would be a slow way to make a fire; but to plant one and, *by means of this planting and the maturing of the forest*, to get at once another

\* Pages 131, 132.

tree for use, is a quick way to make a fire. The forest is a synchronizer of labor and its virtual fruit. The fact that is of practical consequence is, that, if we have once secured the permanent forest, we need do no waiting for fuel.\*

If there is anything certain about the condition of this family, it is that its present supply of firewood is neither less nor more because of its present labor at tree-planting. The planting of a tree has no more to do with the ability to build a fire at once than has the digging of a clam. The tree that is planted to-day will not enable the family to build a fire for twenty years. It was the planting of a tree twenty years ago, and that alone, which enables the family to have a fire to-day. Here, as before, the only way in which the family can realize at once on the labor of planting trees is by finding some one who is willing to advance the present value of the trees and himself wait for them to mature. The forest is, therefore, in no sense "the synchronizer of labor and its virtual fruit."

The real difficulty is that Professor Clark has overlooked the essential fact that for the isolated producer, and for society as a whole, there is no such synchronizer of labor and its virtual reward as he has imagined. The isolated tree-planter must wait for the virtual as well as for the literal product of his labor. There is no possible way by which he can reap to-day the product of to-day's tree-planting, and it makes no difference whether he is beginning a new forest or continuing one that is five centuries old. The same is true of society as a whole. But the individual tree-planter, under present social conditions, can reap a virtual reward at once by selling the trees just planted to some one who is willing to do the waiting. What he will normally be able to get will be the expected future value of the trees, minus the cost of waiting for them to mature. What really happens here is that one member of the community has undertaken to do the waiting for another. This is exactly what happens in every case where the labor of an individual is synchronized with its virtual product, and no amount of subtlety can obscure this essential fact. The author says further: —

\* Page 313.

On the ranches of Montana cattle are breeding, among the forests of Pennsylvania hides are tanning, in the mills of Brookton shoes are finishing; and, if the series of goods in all stages of advancement is only kept intact, the cowboy may have to-day the shoes that he virtually creates by his efforts.\*

The cowboy may have to-day the shoes that he virtually creates by to-day's labor, if some person, or series of persons, is willing to buy the real product of his labor (pay him wages) and then wait for the product to mature. If such persons can be found, the cowboy can have shoes to-day, whether the series of goods in all stages of advancement is kept intact or not. If such persons cannot be found, he cannot have shoes for his day's labor, even if the series of goods is kept intact. If, however, the author really means that such persons are only enabled to take the cowboy's product and wait for it to mature because of the accumulated wealth which they own or control, his position is, of course, well taken. But this would be the poorest kind of an argument against the doctrine that advances are made by one class in the community to another, which is the point at which his whole discussion of the synchronizing power of capital is aimed.

Whether capitalists, for example, make advances to laborers or not is altogether a matter of definition. They make no such advance if by that it is meant that wages are paid before the individual employer has a chance to realize on the products of labor. Labor is not usually paid for until after it is performed. The moment it is performed, an increment of value is added to the material upon which it is expended. This value belongs to the employer, and from this standpoint he may be said to receive the product of labor before he pays for it. Moreover, the individual employer may realize upon it at once, provided the product is in salable form, and thus receive his income before the laborer receives his. But he can do this only on condition that some other person, or series of persons, is willing and able to take the partly matured product off his hands and wait for it to mature. But if it is meant that capitalists as a class make advances to laborers, as a class, the question is quite different. In this case there is

\*Page 315.

no one else to take the partly matured products off the hands of the capitalists, as they take them off the hands of the laborers. The laborer does not wait for the product of to-day's labor because others do the waiting for him. The capitalists do wait for the product of to-day's labor as truly as though to-day's labor started an absolutely new series of products which it would take years to bring to completion.

As already stated, the author does not distinguish land from other instruments of production, but includes them all under capital. His reason is that the rent of land is not a share determined independently of other shares, nor is the part of land in production essentially different from that of other instruments. "It is the whole fund of productive wealth, in every form that such wealth takes, which constitutes the complex agency that co-operates with labor." "What the labor combines itself with is not merely the artificial capital, it is that *and the land*, as they are combined in one and make a general labor-aiding agency."\* It is the diminishing returns from successive increments of labor, as applied to a fixed quantity of wealth *of all kinds*, upon which the law of wages depends. This, however, is only a negative reason. If we are considering functional distribution wholly, there is no positive reason why land should be distinguished from artificial instruments. Neither is there any positive reason why labor should be distinguished from other factors of production. What any particular kind of labor combines itself with is not merely the artificial capital and the land, but these *and other kinds of labor*. These all combined make the general agency which aids this particular kind of labor. It is the diminishing returns from successive increments of this particular kind of labor as combined with a fixed quantity of other productive agents of all kinds, including other kinds of labor, upon which its wages depend.

It is when we come to consider questions of personal distribution that we find positive reasons for distinguishing labor from other factors of production. But these same reasons are equally positive in favor of a distinction between land and

\* *Pa.* 182.

capital. The service of the laborer is of a different kind from that of the capitalist, and so is the service of the landlord. Without capitalists, capital would not exist. The service of capital in production may therefore be said to be, in a sense, the service of capitalists. But without landlords land would exist; and the service of land cannot be said to be, in the same sense at least, the service of landlords.\*

In the opinion of the present writer, the most valuable result of Professor Clark's discussion of the capital concept is the clearing up of certain obscurities concerning the relation between rent and interest. As he puts it, all capital-goods earn rent; but capital, in whatever form invested, earns interest.† What this really means is that capital-goods, considered physically and measured on the basis of any of their physical properties, do not, and cannot, earn a percentage of themselves. But, when both the instruments and their products are measured on the basis of their value, and their quantities are expressed in terms of value, the products will be found to be a percentage of the instruments. This applies as well to land as to other instruments. Measured in acres, it does not produce a percentage of itself: measured in dollars, it does. It would apply to labor, also, if laborers were evaluated, as they are where slavery prevails, so that they could be measured on the basis of their value. If this suggestion were followed up, it would throw valuable light on the whole problem of capital and interest.

That rent, viewed from the standpoint of functional distribution, does not differ in kind from other shares, the author makes perfectly clear; and he is to be congratulated on having satisfactorily disposed of an ancient fallacy. But, instead of stopping here, he goes on to the conclusion that "the rent getter is a product creator,"‡ than which it would be difficult to imagine a more complete *non sequitur*. In this conclusion he ignores the distinction between functional and personal distribution.

Whether rents enter into the prices of agricultural produce or not depends upon the meaning that is given to the ques-

\* This point is overlooked also by Professor Fetter in his article on "The Passing of the Old Rent Concept," in this Journal for May, 1901.

† Page 123.

‡ Page 136.

tion. The author rightly contends that the question is not whether prices would be different if rents were remitted, but whether prices would be different if conditions were such that land would not command rent. If rents were remitted, they would still exist: the only difference would be that some other person than the landlord would get them. But, if they did not exist at all, the author maintains, prices would be different. That is to say, if conditions were such that land would command no rent, products would be more abundant, and prices cheaper. This, however, needs qualification. What are the conditions which would destroy the rent of land? If all land were of absolutely the same quality, distance and all other things considered, and of unlimited quantity, it would command no rent. But, if its quality were the same as that of the poorest land now cultivated, there is no reason why prices should be lower than at present. However, this is a principle which ought to be applied to each individual crop, and not to products in general. If all wheat land, however abundant, were of the same grade as the poorest land now used in growing wheat, the cost of growing wheat everywhere would then be equal to that of the most expensive portion at present, and wheat would be no cheaper. But, if all of an unlimited supply of wheat land were of a better grade than the poorest now used in growing wheat, the cost of growing it would be less than that of the most expensive part of the present supply; and it would be produced more abundantly and become cheaper. The same reasoning will apply as well to any other agricultural product.

The author's theory of business profits is a decided improvement over current theories. Profits result from dynamic conditions, and disappear altogether in a static state. When a business man finds a better method of production than his rivals are using, he can pay current rates of wages and interest, and still have a surplus left. This surplus is profit. But, in the absence of a patent or a trade secret, he cannot hold this advantage; for the improvement speedily becomes the common property of all. When this happens, the profit disappears, or, at least, it no longer exists as a separate share, but

mingles with wages and interest, thus enriching the whole community:—

Thus, an invention makes it possible to produce something more cheaply. It first gives a profit to *entrepreneurs* and then, in the way that we have described, adds something to wages and interest. . . . Let another invention be made, that also effects an economy in production. It also creates a profit; and this profit, like the first, is an elusive sum which the *entrepreneurs* grasp, but cannot hold. This sum, like the former one, slips in time through their fingers and bestows itself on all members of society.\*

Profits abide only with those business men who *keep ahead*, who not only make improvements, but keep making them in advance of all others. Eternal vigilance is the price of profits. But, to him who succeeds in keeping ahead, the rewards are ample. Similarly, with that community or nation which outstrips all others wealth shall abound.

Men who labor in a region that leads in inventions may enjoy forever the quasi-profits that inventions give; for some fruit of each improvement may escape from the hands of the *entrepreneurs* who adopt it early, and, becoming wages for the men who there labor, may continue long in this shape. The Golconda of the future, the region of limitless wealth, is to be the region where the greatest dynamic influences originate. A lead in the race that all humanity is running is to determine the comparative wealth of countries and of continents. Wealth is to abide with the swifter runners.†

It would be difficult to improve upon this theory or the author's statement of it. But it means that profits are the product of ideas, and ideas are an elusive kind of property which is difficult to control. They not only escape to others than their originator, but they have a way of perpetuating themselves without his continued support. In this they differ from capital, which wears out and disappears unless continually renewed by the owner.

It would be difficult to predict the degree of influence which this book is likely to exert. Economic theory is in such an unstable condition on many of the questions discussed that no one can tell what the final conclusions are to be. The writer

\* Page 405.

† Page 437.

is of the belief that Professor Clark's central thesis as to the shares in distribution will stand the test of criticism, and that his discussion of the capital concept and other controverted points will provoke wholesome discussion. Out of this discussion the truth will doubtless emerge. Later writers may reach sounder conclusions than Professor Clark has set forth; but he will be a rare man who can produce a volume equal to this in lucidity, in logical consistency, and in general stimulating qualities.

T. N. CARVER.



## REPLY TO FINAL OBJECTIONS TO THE RISK THEORY OF PROFIT.

IN reply to the two criticisms of "The Risk Theory of Profits" so courteously suggested by Professor Carver in this Journal (for May, 1901), I would say, taking up the second criticism first, that the difference between the views of those discussing Professor Emery's paper at the meeting of the American Economic Association in 1899 and the view taken in my paper on "Enterprise and Profit" in this Journal for November, 1900, seems to me more radical than he implies, and can hardly be accounted for by "a mere matter of definition," or perhaps it would be better to say "of permissible difference of definition."

Professor Emery in his paper makes an initial distinction between "risks of production and speculative risks," which latter he defines as "the risk of price fluctuations affecting the whole market,—that is, distinctly "conjunctur-risks"; and under the other head he distinguishes all other risks attendant upon production. Now I think I made it plain in my paper on "Enterprise and Profit," at least by implication, that this distinction is faulty not only in the connection in which it is used, but in principle. It is not that conjunctur-risks are not distinguishable from other productive risks, and especially, as Professor Emery states, because, unlike the others, they are uninsurable. The distinction is faulty because the risk of price fluctuation when borne by the *entrepreneur* is not a speculative risk but just as much a risk attendant upon production as any of the others. The special point in which it differs from them has no theoretic importance in this connection, because, as I believe I showed, the only distinction of real importance to the discussion is that between productive and unproductive or speculative risks.

From the assumption of other risks a certain and positive actuarial loss results, which increases in volume, the longer the process is continued. For the assumption of such risks the

*entrepreneur* exacts, first, compensation for the average loss which is to be expected, and, secondly, an additional sum as the reward of his assumption of the uncertainty as to how each individual transaction will turn out. In the long run, losses and gains due to price fluctuations or "conjunctur-risks," on the other hand, tend to balance each other. But the uncertainty as to how price fluctuation will affect each individual transaction remains; and the *entrepreneur* will never assume this uncertainty inevitably attached to the productive process, both in "conjunctur" and other risks, unless he believes he will profit thereby. To illustrate: if an *entrepreneur* has a certain amount of goods for sale for which he believes that by waiting a year he could obtain as much over \$1,000 as would pay him for interest, insurance, storage, and any other expenses of carrying, he would nevertheless accept a cash offer of something less than \$1,000. If under such circumstances he accepted an offer of \$975, but refused to accept less, it would show that his subjective valuation of the irksomeness of the uncertainty was  $2\frac{1}{2}$  per cent. If he retained the goods, he might secure more than \$1,000 net for them or he might be forced to part with them for less. He has confidence enough in his own judgment to believe that in the long run his prognostications of the course of the market will average correctly. Nevertheless, the uncertainty is irksome, and he will not assume it unless he expects to gain something thereby; and, having assumed it, he will always sacrifice something to be rid of it.

The bearing of this transaction upon our subject is perhaps best seen from the standpoint of the buyer. No business man would pay the *entrepreneur* in question \$1,000 for his product, and thus lock up his money in an uncertain investment, with the expectation of getting back eventually only the original price plus actual expenses and interest. It is conceivable, of course, that a person to whom the excitement of venturing was an enticement, might be willing to make his bet in this form; and it is also conceivable that the *entrepreneur* with a speculative turn of mind might elect to keep his goods himself, even though he believed there was only an even chance of getting eventually the sum he might sell them for at once.

Further than this, it is even conceivable that the speculative spirit (that is, the desire to wager on an even chance or even on less than an even chance) might prevail in the community to such an extent as to insure an immediate sale to this class of the community of all goods, as soon as they were placed on the market, at as good a price as could probably be realized if they were held longer by their original producers. Society is not, however, so constituted. The fact that sporadic instances really occur in which the risk of price fluctuation combined with ownership is assumed for the mere excitement of the risk, and without any legitimate expectation of being paid for undergoing its irksomeness, and the more important fact that the methods of the exchanges have evolved a class of takers of risk in price fluctuations who do not acquire the ownership in the product, which would enable them to claim a net profit on their total operations, these do not at all interfere with the proposition that the risk of price fluctuation attendant upon ownership will not be assumed unless, in the long run, and on the average, there is a real excess of the chances of gain over the chances of loss.

If, therefore, a class of risk-takers, who confine their industrial activity to the assumption of "conjunctur-risks," intervenes and relieves the original *entrepreneur* of some of the risks due to price fluctuations, by buying his product before the final consumer is ready for it, no theoretic difficulty arises. This is the case President Hadley evidently had in mind when commenting upon Professor Emery's paper. What I was forced to object to, as an essential to my argument, was his identifying this class with the class of speculators, in doing which President Hadley was merely voicing an impression, common among economists, which it was important to correct. Whether this class of risk-takers are commonly and loosely spoken of as speculators is a comparatively trivial matter. That the usage exists, to some extent, must be granted, but hardly to the extent that Professor Carver and President Hadley seem to suppose, or, indeed, to an extent that can be called general. There are two prominent classes of business men who are accustomed habitually to subject themselves to this class of risks; namely, wholesalers, or job-

bers, and retailers. But neither of these large classes is ever spoken of as speculators. When, however, a lawyer or any one not engaged in active business relieves an *entrepreneur* of the risk of price fluctuations, or even when a jobber or a retailer, or, for that matter, another *entrepreneur*, who is not accustomed to deal in his particular product, so relieves an *entrepreneur*, the venture is commonly spoken of as a "speculation." Now the fact that a given business adventure is a sporadic one has absolutely no effect upon its economic quality. If a lawyer who buys butter and eggs in the season when they are plenty and cheap, and puts them in cold storage until the season arrives when they are scarce and dear, is a speculator, the regular butter and egg merchant, whose business is mainly of the same character, must be classed with him, as they both perform exactly the same economic function. It is evident that the popular use of the term "speculative," in this connection, must be barred from scientific discussion. And further reflection on this popular use of the term will confirm the position here taken. When such action as the supposed lawyer's is referred to as "speculative," the term is directed, not to its economic character, but to the motive which is supposed to control the action of the venturer; namely, in this instance the desire to bet on the future course of the butter and egg market. To make such a bet, it is necessary for the venturer to acquire actual ownership of butter and eggs; and it is this ownership, and not the desire to bet, which determines the economic character of the transaction. The popular use of the term "speculative," in this and similar instances, is expressive of the moral, and not of the economic standpoint, and cannot, therefore, be adopted in economic discussion.

But, passing all that has been said, it is not the operations of this class of venturers which Professor Emery's paper was designed to call attention to. The real subject of his inquiry and the subject, therefore, to which criticism should have been confined, was the speculation on the produce, cotton, and other exchanges, whose peculiar function is to afford opportunities for betting on the course of the wheat, cotton, coffee, and other markets, without acquiring ownership in the products

whose prices are bet on. In his discussion of Professor Emery's paper, Dr. Wood acknowledged that the speculators on these exchanges neither gained nor lost as a class from their operations with each other, but seemed to suppose that they enjoyed very considerable gains when dealing with merchants who bought of or sold to them as a hedge. In my paper on "Enterprise and Profit," I showed, I think conclusively, that he was mistaken in this, as the merchants gained when the market declined about what they lost when the market advanced. As merchants do not hedge against all their purchases and sales, it is conceivable, of course, that speculators might gain something from merchants usually choosing the wrong time to hedge. As a matter of fact, the probability, such as it is, is the other way, since the average merchant is a much better judge of the market than the average speculator. "The outside speculator," a large and constantly recruited host, is comparatively very ignorant of the real conditions influencing the market. But, even if it is granted that speculators in their dealings with merchants get somewhat the better of them on the average, not only is the gain so small as to be negligible, but it would not affect our theoretic position, because it would depend on an accidental circumstance over which the speculator had no control,—the circumstance, namely, that the merchants engaged in the trade were lacking in judgment of market conditions. And it is instructive to notice, in passing, that in any business in which the speculators got the best of the merchants in the long run, the average loss of the merchants would become an element of their cost of production, and would consequently constitute an element of consumer's cost also. The gain of the speculators would then be exactly analogous to the profit of the insurer, and would present no greater theoretic difficulties.

Now we have seen that the *entrepreneur*, to the extent to which he subjects himself to "conjunctur-risks," exacts a margin of profit for himself. What becomes of this special margin of profit when the *entrepreneur* succeeds in shifting the uncertainty upon another? If that other is also an *entrepreneur*, the chance of a surplus of gain goes with the risk, or rather with the ownership to which the risk is attached. If that

other is a speculator, however, who, instead of giving or acquiring ownership, sells or buys the mere agreement to take the product at a given time at a given price, the risk is transferred without any transfer of ownership, and carries with it, therefore, only the chances attendant upon the rise or fall of the price within the time specified,—chances which equalize each other in the long run. What becomes of the surplus or bonus or profit which the risk-taker, who is also an owner, is accustomed to exact for assuming the risk of price fluctuation attendant upon all unhedged ownership? To the extent in which the owner of goods has hedged himself against fluctuations in their price, he, of course, has to forego this bonus, profit, or surplus. Clearly, it does not accrue, as Dr. Wood supposes, to the speculator of the exchanges. The truth is it is eliminated from the social or consumer's cost of the product. The service is rendered just the same as when the unhedged *entrepreneur* charges the final consumer for it; but, as the speculator on the exchange charges the *entrepreneur* nothing for relieving him of the risk, the latter has to forego the charge to the consumer he would otherwise make. He is eventually forced by competition to lower his price for his product.

The question will naturally be asked here how it comes to pass that an *entrepreneur* will exact a profit for himself for assuming a risk, which he will undertake as a speculator, without any expectation of an economic gain,—that is, of gaining on the average if the risk is habitually assumed? His only object, or at least his main object, in each case is to make money. Why will he engage in operations in which he knows the chances of his class are at best even, when he might engage in operations in which the chances, on the whole, favor his class? The explanation is perhaps to be found in the fact that there are two classes of speculators. One is the professional class,—to which most speculators flatter themselves they belong,—who make a study of the matter, who devote most or a large portion of their time to the careful study of market conditions, and, owing to their superior knowledge and judgment, are able, in the long run, to make gains from speculation as great as, or greater than, the legitimate profit on the risks they assume, if

they had assumed these risks as undertakers. The other class are the "outsiders," whose real object is the excitement of the game, and who, as a rule, only speculate sporadically, who devote but little study to market problems, and who risk usually but a portion of their idle means at any one time. This is the class "who take a flier" when they happen to be "flush." They are led to the exchange by the same inducements that provide the race track and the gambling den with their victims; and their aggregate losses are amply sufficient to provide the professional speculators with satisfactory incomes. It is this class upon whom in the end falls the payment of what is saved to the final consumer through assumption, without charge, by the speculator of the exchanges of the risks of price fluctuation. Possibly, from a social point of view, this is as good a use as their funds could be put to. The loss, to a large extent at least, is the loss of funds easily spared, and may be regarded as paid out for the fun of the thing. The gain is to the consumers of grain, pork, lard, and other provisions; and to the wearers of cotton goods, a class to whom, on the average, the saving is most welcome. From which it appears that, while the produce exchanges perhaps increase the disparity of wealth among the well-to-do classes, they also bring about a very considerable transfer of wealth from the well-to-do classes, as a whole, to the poorer classes, since the articles dealt in on them, and thereby cheapened, enter much more largely into the consumption of the latter classes than they do of the former.

In this connection the writer wishes to modify a statement made in previous papers. He has said that "profit connotes risk, and risk connotes profit." The statement is true, if the word "profit" is understood simply as expressive of a possible gain with its correlative of a possible loss. But the latter part of the statement is too broad, if the word "profit" is understood as expressive of an excess of gain over loss that will be yielded by the average of a continued series of transactions involving risk. And, as it is this economic and net profit only which the Risk Theory of Profit contemplates, the ambiguity of the statement above quoted is responsible for some misunderstandings, and notably that of Professor Emery in his

paper before the American Economic Association, when he says:—

We have, then, in the case of the speculative market, a method of shifting risks unlike anything else in the business world; and we have a special class whose distinct function it is to assume these risks. Can this special class of risk-takers be subsumed under any of the recognized classes in the theory of distribution? It will be granted at once, I suppose, that the speculator is not a laborer, and that his gains are not of the nature of wages. Is he an *entrepreneur*? If we adopt the risk theory of profits, he might seem to be the most perfect type of the *entrepreneur*. Evidently, however, he cannot be so considered without a departure from all previous use of terms. . . .

The Risk Theory of Profit was proposed by the writer as a theory of productive distribution which accounted for an element of consumer's cost not hitherto satisfactorily explained. The theory, stated as simply as possible, is this:—

*The final consumer is forced to include in the price he pays for any product not only enough to cover all the items of cost to the entrepreneur,—among which items is a sum sufficient to cover the actuarial or average losses incidental to the various risks of all kinds necessarily assumed by the entrepreneur and his insurers,—but a further sum, without which, as an inducement, the entrepreneur, or enterpriser, and his insurers will not undergo or suffer the irksomeness of being exposed to risk.*

*This surplus of consumer's cost over entrepreneur's cost, universally regarded as profit, and, from the nature of the case, an unpredetermined residue, is the inducement for the assumption by the entrepreneur, or enterpriser, of all the risks, whatever their nature, necessitated by the process of production. As the inducement to any given action and the reward for that action are the same thing,—the difference being not in the thing itself, but only in the point of time from which it is looked upon,—the unpredetermined residue, which served as the inducement to risk at the commencement of any industrial transaction, must, necessarily, when determined and realized at its close, be regarded as the result, or reward, of the risks undergone.*



This statement of the theory should make it clear that it contemplates only industrial risks,—risks, that is, which increase the average price paid by the final consumer. To be strictly accurate, the writer should have said, “net profit connotes industrial risk, and industrial risk connotes net profit.” The Risk Theory has nothing to do with betting or gambling risks, or personal risks not involved in economic processes, or with the risks assumed by speculators on the exchanges, because nothing is exacted from the final consumers for their assumption. According to the Risk Theory of Profit, therefore, the speculator on the exchanges instead of being, as Professor Emery supposes, the most perfect type of an *entrepreneur* is not an *entrepreneur* at all.

We now come logically to the first and more important criticism suggested by Professor Carver. The point involved is a very subtle one; and the other side is so clearly, logically, and concisely put that I quote him in full:

The difficulty is not so much with the proposition that the essential function of the *entrepreneur* is risk-taking as with the proposition that profits are the reward for risk-taking. This difficulty is suggested by Mr. Hawley himself in his discussion of insurance (p. 94). He contends, correctly, that insurance is not the reward for undergoing risk. The real reward of the insurer “is to be found not in the amount of premiums received, but in the difference between that amount and the losses consequent upon assuming the risk.” Here the question arises, How does there happen to be this difference? Evidently, because the risk to the insurer is less than to the insured. In fire insurance, for example, the loss to the insured in case of fire would include not only the money value of the buildings or goods destroyed, but also shrunken credit and crippled business, besides the sharply accentuated subjective loss due to the fact that a large share of his income for a given period had been cut off. To the insurer the loss is the simple money value of the buildings or goods destroyed. Though the shifting of the risk from the insured to the insurer does not diminish the number of losses, the amount of risk is diminished because each loss is smaller. It bears less heavily upon the insurer than it would upon the insured. Therefore, the insured can afford to pay in premiums more than enough to enable the insurer to meet his losses.

This familiar principle of insurance explains how it is that there are profits of insurance. It also suggests that these profits of insurance are a kind of risk-taker's rent. They owe their existence to the fact that

they are not the reward of risk-taking, but that they are the surplus over and above the real risk assumed. It is evident that in the case of the *entrepreneur*, as well as in that of the insurance company, so much of his gross income as goes to cover his real risk, or to make good his losses, is not to be classed as profit. Only that which remains after the losses are met deserves that name. How does there happen to be a remainder? Evidently, because the risk to the *entrepreneur* is less than to those whom he relieves of it. There is no reason for believing that a given loss would fall less heavily upon him than upon those whom he relieves, but there are reasons for believing that the amount and number of losses experienced by the skilled *entrepreneur* are less than would be experienced by those whom he relieves of the risk. This is due to no actuarial principle, as in the case of the insurance company, but to superior foresight and skill in avoiding losses. His real net income is, therefore, properly called risk-taker's rent, and is due, not to the risks which he assumes, but to the risks which he does not assume. Stated more accurately, the fact that he relieves others of their risks may account for his gross income; but his net income or profit arises from the fact that he is able to reduce his own risk below that which others would have to carry. This last way of stating the case makes it apparent that profits are, after all, payment for superior foresight and managerial skill, even though we admit that the *entrepreneur* is essentially a risk-taker.

I hope I am not premature in inferring that Professor Carver admits my contention that "the essential function of the *entrepreneur* is risk-taking," and does not take the first ground of opposition to the Risk Theory of Profit,—that of Professor Clark,—that risk-taking is a function of the capitalist, and not of the *entrepreneur*; nor the second position, taken by most of my other critics,—that risk-taking is a subsidiary or secondary function exercised by all the productive forces, landlords, laborers, capitalists, and *entrepreneurs*, but is not the essential function of any one of these classes, although most frequently exercised by *entrepreneurs*. The only part of my argument which I understand him to doubt the validity of is the relation of co-ordination to enterprise. If I am correct in these inferences, the main points of my argument have been gained; and it only remains for me to make somewhat clearer the connection between the essential function of the *entrepreneur* and the result of the exercise of that function.

In the first place, I would reiterate that, if "profits are, after all, payment for superior foresight and managerial skill, even

though we admit that the *entrepreneur* is essentially a risk-taker," we have to explain away a contradiction of terms. Foresight and managerial skill are attributes of labor, mental constituents of labor force. Their reward is commonly and correctly spoken of as wages of management. Now, if we are to differentiate the productive forces by functions, we are forced to regard the results of the *entrepreneur's* industrial activity as the antecedent inducement to the exercise of his peculiar and essential function, and, therefore, its reward. .

Producer's or *entrepreneur's* cost is always calculated in terms of pecuniary sacrifice, as it has to be, to make it comparable with selling price. It includes, therefore, only what the *entrepreneur* has to actually pay out in some form, and such pecuniary receipts as he is obliged to forego in undertaking his enterprise. If he has been so fortunate as to secure an exceptionally able manager, the extra product due to the manager's ability is not a constituent of the *entrepreneur's* cost of production. What does enter into that cost is the amount which the competition of other *entrepreneurs* forces him to pay for the services of his manager. If the manager happens to be worth a good deal more than the salary he receives, his employer's profit will indeed be thereby increased; and, in a certain sense, this extra profit may be said to arise from the exercise of the manager's exceptional foresight and managerial skill. But while the extra profit is, as Professor Carver truly asserts, the result of the manager's judgment and skill, it is neither the inducement to nor the reward of their exercise. The whole benefit goes to another person, except to the extent that it sometimes leads incidentally to a future increase of salary. The inducement to the exercise of the manager's powers is the salary the *entrepreneur* pays him, and this salary is his reward in the only proper economic use of that term. Neither can it be claimed that this disparity between the results of managerial activity and the salary which is its economic recompense is temporary, and will eventually be adjusted by a corresponding increase in the salary. There are two limits to the salary which an employer will pay, neither of which are ever knowingly overstepped. The results of an

employee's efforts must be enough greater than his wages to afford, on the average, a satisfactory profit to the employer, or his employment will be discontinued whenever the fact is appreciated. And, no matter how great the result of an employee's skill and labor may be, the employer, so long at least as he is governed by economic motives, will pay him only the competitive price,—that is, just enough to retain him; and this amount will be determined not by what the manager is worth to his employer, but by what some other employer thinks the manager would be worth.

Nor is the theoretical aspect of the case at all changed by the *entrepreneur* acting as his own manager. In this case the exceptional results of his own great ability is not an element of producer's cost to him. What is such an element of cost is only the salary he could obtain by acting as manager for some other *entrepreneur*. Possibly it may seem to some that the case is not exactly parallel with that of the hired manager, because there has occurred a change in the incentive to industrial effort. This incentive, which was a stipulated salary, has now become the hope of increasing the undetermined residue. Probably this change of incentive tends to make a manager more efficient when acting for himself than when employed by others; but the increase in his own efficiency tends to decrease and not to increase the difference between producer's cost and selling price, and constitutes part of the incentive to the *entrepreneur* to run the risk of employing himself and foregoing the salary he might obtain from others. Now since this difference between the *entrepreneur's* worth to himself as manager and the salary he could obtain by working for others is not a part of *entrepreneur's* cost, and, cannot, therefore, be either rent, interest, or wages, all of which are always wholly included in *entrepreneur's* cost, it must constitute a part of the unpredetermined residue which cannot include any element of rent, interest, or wages, these being all capable of predetermination. What, then, is it? None of my opponents has explained, or attempted to explain, further than to deny that it constitutes part of the reward for, or, in other words, the inducement to, the assumption of responsibility. The explanation I have offered is that it is simply a case of an

accretion to profit due to monopoly,—a subject which will next engage our attention.

Undertakings will not be engaged in as a matter of business unless there is an expectation that the resulting gains will, in the long run, exceed the resulting losses. There is, indeed, a class called speculators, who will assume risks in which the chances, taking the class as a whole, are really only even or a little less than even; and there is another class, called gamblers, to whom the excitement of chance is a good in itself, so that they will assume risks that will certainly average against them as a class. If all *entrepreneurs* were speculators as well,—that is, if they were willing to undertake business enterprises involving risks that, on the average, would allow them just to get out whole, and no more,—producer's cost would, on the average, just equal consumer's cost. If they were all gamblers, producer's cost would be the greater; and productive industries involving loss to the *entrepreneur* would still be continued. What is it that insures the class called *entrepreneurs* from becoming altogether speculators or altogether gamblers? Simply the principle of the survival of the fittest. It goes without saying that the gambling class is in constant process of elimination, and is only kept up by recruiting from the other classes. A little reflection will also make it evident that the class of speculators is also always in process of elimination, though at a less rapid rate. Men must live, and living is expensive; and, as the results of their operations leave to the class, as a whole, no surplus to be applied to the expenses of life, a constant depletion of their funds takes place, so that this class, also, is only kept up by an influx of new members. Similarly, those engaged in "legitimate" business enterprises, whom a too sanguine disposition inclines to accept risks the out-turn of which will, on the average, fail to yield them a living, are gradually eliminated from the mass of industrial risk-takers, with the result that the business ventures actually undertaken yield, on the average, not only sufficient for liberal living expenses, but a good deal besides, which is devoted to an increase of capital funds. Men enter business with the serious purpose of making a living for themselves and their families, and accumu-

*Expand elements  
the class who do it.*

lating something in addition. It is only the prospect of a substantial gain that will induce them to venture. How great this inducement must be will depend upon several circumstances, which can all be resolved into subjective valuations of risks,—a subject too well understood to require any special discussion here. The point to be observed—and theoretically it is a point of supreme importance, upon which this whole controversy really turns—is this: that every business man's subjective valuation of a risk is always greater than his actuarial valuation of the same risk.

Strictly speaking, however, no one ever assumed a risk at exactly his own subjective valuation of it. At that point there is an exact equilibrium of forces from which no movement can arise. If it is a matter of absolute indifference to any one whether he assumes or declines a given risk, he will let it alone. Nevertheless, if he should undertake the venture, he would, on our supposition, make money. He would be richer at the end of the transaction by just the difference between the actuarial value of the risk and his subjective valuation of it. This money gain which he would acquire is, however, in another sense, not a gain at all. By supposition, it is only the exact equivalent of the irksomeness of the risk. There is an irksomeness-cost to enterprise in the same sense that there is a pain-cost to labor. Now this part of the undetermined residue, which just offsets the irksomeness of risk, cannot be resolved into Professor Carver's "risk-taker's rent," under which term can only be included the difference between the "irksomeness cost" and the whole amount of the undetermined residue. But the fact that the wages received did not exactly balance the pain-cost of labor would not lead any one to affirm that these wages were not both inducement and income to the laborer. On the contrary, wages are still regarded as the income of the laborer, even when they are a hundred times the subjective value of the pain-cost of the labor involved. Now let us suppose that something occurs, no matter what, which enables a laborer to demand or receive double his former wages for the same effort. Whether he has become more skilful than his fellows or acquired some secret process, or whether his competitors have enlisted in the wars,

leaving him the only one in the village capable of doing certain kinds of work, makes no difference. His income is still wholly of the nature of wages. There has occurred, to use a phraseology heretofore used by me, "a monopolistic accretion to wages." Now in just the same way there can and does occur "a monopolistic accretion to profit," or, to use Professor Carver's term, a "risk-taker's rent." As we have seen, no one ever assumes a risk at exactly his subjective valuation of it, although so doing would result, in the long run, in an income of profit. If there are others whose subjective valuation is less than his, he leaves the risk to them. If there are no such others, he exacts for undertaking the venture all he can get above his own subjective valuation; but the excess he gets above his subjective valuation, his "risk-taker's rent," is just as much a part of the inducement to undertake the venture as the extra compensation secured by the fortunate workman is a part of his inducement to labor, and it is due to exactly the same cause, namely, advantages over others who are in a position to entertain the venture. It matters not at all what this advantage consists in. It may be a patent enforced by the state, a secret process carefully guarded, a commercial reputation, good will that insures his goods being preferred to others equally good, tariff protection, nearness to raw material or to market, large capital, exceptionally faithful workmen, vigilant overseers, economical management, or his own exceptional judgment and financial ability. Just as no workman gauges his demand for wages upon his subjective pain-cost of labor, so no *entrepreneur* gauges the difference between the cost of his goods and the price he demands for them by his subjective valuation of the irksomeness of the risk. In each case this is only the limit below which he will not intentionally go. And, just as the laborer demands all the wages he can get,—namely, the amount that will just insure his getting the job,—so the *entrepreneur* demands all the profit he can grasp; that is, the very largest difference between cost and selling price at which his product can be successfully marketed.

It goes, of course, without saying that risk-taking will, in the long run, result in gain largely in proportion to the wisdom and judgment with which the selection of ventures has



been made; and it is also true that success in venturing depends rather upon the avoidance than the undergoing of risks. But it must also be borne in mind that, if the avoidance of risk proceeds to the point of eliminating risk entirely, profits, instead of being infinitely increased, are annihilated; for that implies an abandonment of the venture. The explanation is that the *entrepreneur* bases his expectation not upon his own valuation of the risk, but upon the valuation of the would-be undertaker who is just unable to supplant him. So long as he can avoid risks without disturbing the subjective valuation of the one watching his chance to compete with him, his profits are increased. But this increase will evidently be lost just as soon as these methods of avoidance become known and available to the would-be competitor. In other words, avoidance of risk inflates profit only so long as the ability to avoid the risk is a monopoly.

Professor Carver, therefore, would appear to be in error in two particulars: first, in supposing that "risk-takers' rent" accounts for all of the unpredetermined residue, whereas such part of it as amounts to the difference between the actuarial risk and the enterpriser's subjective valuation of the risk cannot be resolved into such rent; and, secondly, in asserting that, as the gains of the *entrepreneur* are largely due (in the sense of arise from) to the exercise of managerial ability in lessening risks, they therefore are due to (in the sense of accrue as income to) him as the reward of his managerial ability. This, of course, is true in a certain sense; but it is also just as true that the opportunity for the exercise of exceptional managerial skill is part of the inducement to undertaking the responsibility of any business enterprise. And for reasons already stated this inducement is the initial and fundamental one which fixes the economic quality of the act. It is impossible for an unpredetermined residue to arise from the exercise of managerial ability in cases where no responsibility is assumed; but, even when no exceptional ability in management is exercised, it arises in just the same way, though lessened in amount, whenever and wherever responsibility exists.

Does not Professor Carver's assertion contain a fallacy, not nearly so obvious, of course, but of the same class as the asser-



tion of our Granger friends, that "everything comes from the soil, and therefore all other classes get their living out of the farmer"? or that of Marx, that, "as nothing can be produced without labor, therefore interest, profit, and rent can result only from the exploitation of the laborer"? or the assertion of one who should attempt to answer Marx by claiming that, "as everything is the joint product of capital and labor, labor is only entitled to such part of the joint product as it could have produced without the aid of capital"?

The reply to all these equally fallacious claims is that the economic distribution of the product is not and should not be in the proportion in which the product is due to each, in the sense of arising from the activity of each; nor is it in accordance with the sacrifice, in the sense of the pain-cost, of each factor. The real principle of division for the purposes of this argument can be thus stated:—

The proportion of the product that each factor obtains is that which tends to result in an equilibrium among them; that is, which induces each factor to an activity in such proportion to the activities of the other factors as shall result in the greatest joint activity possible under the social and economic conditions prevalent at the time. Changes in the social and economic conditions necessitate, of course, a readjustment of the division of the product among the factors of production; and during these readjustments some of the factors receive more and some less than their due share, which results, of course, in a lessening of the joint or total activity possible under the changed social and economic conditions. When the readjustment is completed, equilibrium between the activity of the productive factors again obtains.

This general law governing the distribution of the product opens up to us a number of enticing by-paths; for in it is to be found an adequate explanation of our recurrent periods of industrial depression, and upon it also can be founded the moral justification of economic distribution. What immediately concerns us here is to note that, since the obtaining of the undetermined residue is the inducement to assume the financial responsibility of any undertaking, the whole residue, when determined, must be the reward of the assumption of industrial

risks; in exactly the same sense that wages are both the inducement to and the reward of labor, and interest both the inducement to and the reward of parting with the control of capital, and rent both the inducement to and the reward of parting with the use of land.

FREDERICK B. HAWLEY.

## RECENT PUBLICATIONS UPON ECONOMICS.

Chiefly published or announced since May, 1901.

An asterisk prefixed to a title indicates a second and more detailed notice of a book announced in a previous number.

### I. GENERAL WORKS, THEORY AND ITS HISTORY.

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- FRANCE. Office du Travail. Les associations professionnelles ouvrières. Tome II. Cuir et peaux. Industries textiles. Habillement. Ameublement. Paris: Impr. Nat. 1901. 8vo. pp. 896. 5 fr. [The first volume, dealing with labor organizations in certain other lines of industry, appeared about a year ago.]
- HUGO (C.). Die deutsche Städteverwaltung. Ihre Aufgaben auf den Gebieten der Volkshygiene, des Städtebaus und des Wohnungswesens. Stuttgart: J. H. W. Dietz Nachf. 1901. 8vo. pp. 524 and one map. 10 m.
- LAPEYRE (P.). Le catholicisme social. 3 vols. Paris: Lethielleux. 1901. 18mo. 3.50 fr. each.
- MACKEY (T.). Public Relief of the Poor. Six Lectures. London: Murry. 1901. 8vo. pp. 222. 2s. 6d.
- MILLOT (l'abbé). Que faut-il faire pour le peuple? Esquisse d'un programme d'études sociales. Paris: Lecofpe. 1901. 12mo. pp. 518. 4 fr.
- PATTON (D. N.), DUNLOP (J. C.), and INGLIS (E. M.). A Study of the Diet of the Laboring Classes of Edinburgh. Edinburgh: Schultz. 1901. 8vo. 4s. [An investigation carried on under the auspices of the Town Council.]
- PERRAUD (R.). Les associations d'individus. Recherches d'individualisme normal. Paris: Rousseau. 1901. 8vo. pp. 290. 5 fr.
- SANDENS (Wm.). Die moderne Arbeiterbewegung in England. Frankfurt a. M.: Dr. E. Schnapper. 1901. 8vo. pp. 32. 1.20 m. [The author is Secretary of Battersea Labour League.]
- SOULLIER (P.). Les institutions de retraites des compagnies de chemin de fer. Paris: Guillaumin. 1901. 8vo. 10 fr.
- SUTTER (Miss J.). Cities and Citizens. London: Marshall. 1901. 8vo. 6s. [A rather highly colored plea for the poor and homeless in cities. The Elberfeld system of relief is advocated.]
- THOMSON (R. T.). The Workman's Compensation Act: A Plea for Revision. London: Wilson. 1901. 8vo. 2s. 6d.
- TURMANN (M.). Le catholicisme social, depuis l'encyclique *rerum novarum* (15 mai 1891). Paris: Alcan. 1900. 8vo. pp. 335. 6 fr.
- UNSIGNED. Improved Means of Locomotion as a First Step towards the Cure of the Housing Difficulties of London. London: Macmillan. 1901. 8vo. ["An abstract of the proceedings of two conferences convened by the warden of Robert Browning Hall, Walworth," and a paper on the subject by Charles Booth.]
- In Periodicals.*
- AMES (Azet, M.D.). Labor Conditions in Porto Rico. Bulletin Dept. of Labor, May. [Classifies trades and very briefly describes conditions in each.]
- BARNETT (S.). The Housing Problem. Nineteenth Century, May. [Words of caution from the warden of Toynbee Hall.]
- ELLIS (Leonora B.). A New Class of Labor in the South. Forum, May. [The operatives of the new Southern factories, all white, have come from the tenant farm, the cotton field, the hillside corn patch, and the mountain hut. This transformation of an agricultural into a manufacturing population is due to the fall in the price of cotton, which is driving out the small farmer.]
- GILMAN (N. P.). Social Economics at the Paris Exposition. Bulletin Dept. of Labor, May. [Describes the displays relating to profit-sharing and similar schemes, and to the activities of labor organizations.]

- GOLDSCHMITT (Reg.-Ass. O.). Das Koalitionsrecht der Arbeiter. Ein Beitrag zur Geschichte unserer Sozialpolitik. Annalen des Deutsch. Reichs, 1901, No. 5. [To be continued.]
- McVEY (F. L.). The Work and Problems of the Consumers' League. Amer. Journ. of Sociol., May. [A clear presentation.]
- MORAN (T. F.). The Ethics of Wealth. Amer. Journ. of Sociol., May. ["Shall we say with Ruskin that 'no nation has a right to indulge in luxuries until all its poor are comfortably housed and fed,' or shall we defend the right of a man to live luxuriously as long as his money is procured in a legitimate way?"]
- WEBER (Alfred). Die volkswirtschaftliche Aufgabe der Hausindustrie. Akademische Antrittsvorlesung, Berlin. Jahrb. f. Gesetzg., 26, Heft 2. [In house industries German labor is proving itself unable to compete with Chinese labor and similar cheap labor. Survival of house industries in Germany is due to the fact that certain thickly populated centres are not sufficiently equipped with transportation facilities to admit the introduction of the factory system.]
- WILLIAMS (A.) and VIVEAN (H.). Recent Progress of Labor Copartnership. Econ. Rev., April.
- UNSIGNED. The Housing Question. Quarterly Rev., April.

### III. SOCIALISM.

- BOURDEAU (J.). L'évolution du socialisme. Paris: Alcan. 1901. 16mo. 3.50 fr.  
[Contains chapters on the socialist movement in France during the nineteenth century, on municipal socialism, on strikes, trade unions, etc.]
- FRIEDLANDER (B.). Die vier Hauptrichtungen der modernen sozialen Bewegung. I. Theil: Marxismus und Anarchismus. Berlin: S. Calvary. 1901. 8vo. pp. 240. 3 m.  
[The other two tendencies to be examined in the completed work, in addition to the two considered in this part, are Dühring's sozialistisches System and George's Neophysiolokratie. The judgment on Marx's theories is critical and unfavorable.]
- LOUIS (P.). Histoire du socialisme français. Paris: Revue blanche. 1901. 18mo. pp. 315. 3.50 fr.
- SPIRET (H.). Dupont - White. Étude sur les origines du socialisme d'état en France. Paris: Giard et Brière. 8vo. pp. 202. 5 fr.
- WOLFF (Henry W.). Die sozialistische Bewegung in England. Jahrb. f. Nat. Oak., 21, Heft 3.
- WORMS (René). Le collectivisme et la propriété rurale. Rev. Int. de Sociol., April, 1901.

### IV. LAND.

- BETA (Ottomar). Deutschlands Verjüngung. Zur Theorie und Geschichte der Reform des Boden- und Creditrechts. Berlin: J. Harrwitz. 1901. 8vo. pp. 532. 10 m.
- CETTO (Dr. Frhr. Wilh. v.). Die Entwicklung der Organisation des landwirtschaftlichen Kreditwesens in Bayern. Munich: R. Oldenbourg. 1901. 8vo. pp. 94. 1.50 m.
- CONVERT (F.). L'industrie agricole. Paris: Baillière. 1901. 16mo. pp. 448. 5 fr.  
[The author is "professeur d'économie rurale à l'Institut national agronomique."]
- GRÜNBERG (Prof. Karl). Studien zur oesterreichischen Agrarge-

schichte. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 287. 6 m.

[Contents: Die bauerlichen Unfreiheitsverhältnisse und ihre Beseitigung in der Bukowina.— Die Grundeigentumsfähigkeit in den böhmischen Ländern von 1848.— Bestiftungszwang und bauerliches Erbrecht vor 1868.]

KAEGER (Prof. Dr. Karl). Landwirtschaft und Kolonisation im spanischen Amerika. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 948 and table and 750. 42.80 m. [Vol. 1. Die La Plata-Staaten. Vol. 2. Die südamerikanischen Weststaaten und Mexiko.]

MAUDRY (G. v.). Das Grundbuchwesen in Württemberg. Tübingen: H. Laupp. 1901. 8vo. pp. 55. 1 m.

[Enlarged reprint from "Festgabe für Albert Schäffle."]

NIKASCHINOVITSCH (Bozidar). Bosnien und die Herzegovina unter der Verwaltung der oesterreichisch-ungarischen Monarchie und die oesterreichisch-ungarische Balkan-politik. Berlin: Thormann & Goetsch. 1901. 8vo. pp. 179. 5 m.

[Eine politisch-oekonomische Darstellung der gegenwärtigen Zustände in vier Bänden. Volume 1. Berliner Congress 1878 und die Agrarfrage.]

SCHUMACHER (H.). Ueber Kornerträge in der Landwirtschaft. Berlin: P. Parey. 1901. 8vo. pp. 116. 8 m.

[Heft 2 in Materialien für die deutsche Handelspolitik, issued by Deutscher Landwirtschaftsrath.]

VIEBERGH (E.). La question agraire en Irlande. Brecht: Braeckmans. 1901.

[A study of the methods of rent regulation prevailing in Ireland during the last thirty years.]

#### *In Periodicals.*

HITIER (J.). L'agriculture moderne et sa tendance à s'industrialiser. Rev. d'Econ. Pol., Feb., Apr., May. [Discusses the increasing incorporation of capital and labor in the land, and shows how the greater division of labor and greater use of machinery in farming are diminishing distinctions between industry and agriculture.]

SCHIFF (Walter). Geschichte der oesterreichischen Land- und Forstwirtschaft und ihrer Industrien 1848-1898. Jahrb. f. Nat. Oek., 21, Heft 3.

UNSIGNED. British Agriculture during the Nineteenth Century. Quarterly Rev., April. [Second and concluding article.]

### V. POPULATION, EMIGRATION, AND COLONIES.

#### *In Periodicals.*

KELLER (A. G.). The Beginnings of German Colonization. Yale Rev., May. [On Bismarck's policy and the acquisitions of 1883, with an account of the German possessions in Africa.]

SCHOOLING (J. H.). The English Marriage Rate. Fortnightly, June. [Shows and comments on "the very appreciable loss in marriage fertility of recent years."]

### VI. TRANSPORTATION AND EXCHANGE.

CURTI (Dr. Eng.). Untersuchungen über den Rückkaufwert der schweizerischen Nordostbahn. Zürich: Zürcher & Furrer. 1901. 8vo. pp. 125 and map. 2 m.

DIX (Arth.). Deutschland auf den Hochstrassen des Weltwirtschaftsverkehrs. Jena: G. Fischer. 1901. 8vo. pp. 228. 4.50 m.

STURMANN (Dr. Pet.). Holland und sein deutsches Hinterland in ihrem gegenseitigen Warenverkehr, mit besonderer Berücksichtigung der holländischen Haupthäfen, seit der Mitte des 19 Jahrhunderts. Jena: G. Fischer. 1901. 8vo. pp. 140. 2.50 m.

[In Piersdorff's Abhandlungen des staatswissenschaftlichen Seminars zu Jena.]

TUNELL (G. G.). Railway Mail Service: A Comparative Study of Railway Rates and Service. Chicago: Lakeside Press. 1901. 8vo. pp. 214.

[Reprint of articles published during the last three years in the Journal of Political Economy, the drift being that the railways are not overpaid.]

#### *In Periodicals.*

HULL (C. H.). Railway Alliance and Trade Districts of the United States. International Monthly, June. [The new principle of railroad consolidation plans to divide the field between former rivals, and not to strengthen rivals competing in the same territory.]

### VII. INTERNATIONAL TRADE AND CUSTOMS LAWS.

COLIN (A.). La navigation commerciale au XIX<sup>e</sup> siècle. Paris: Rousseau. 1901. 8vo. pp. viii, 459. 8 fr.

[Ouvrage récompensé par l'Académie des Sciences morales et politiques.]

GERSTL (Siegr.). Unsere Zoll- und Handelspolitik bezüglich des landwirtschaftlichen Maschinenwesens. Vienna: J. Eisenstein & Co. 1901. 8vo. pp. 174, 2 plates. 2.50 m.

[Mittheilungen der oesterreichischen Centralstelle zur Wahrung der land- und forstwirtschaftlichen Interessen beim Abschlusse von Handelsverträgen.]

GOTHEIN (Abg. Geo.). Der deutsche Aussenhandel. Materialien und Betrachtungen. I. Hälfte. Berlin: Siemenroth & Troschel. 1901. 8vo. pp. 436. 10 m.

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[A series of lectures that owes its origin to the present struggle between the agricultural interests and the manufacturing interests in the field of customs legislation.]

KAUTSKY (Karl). Handelspolitik und Sozialdemokratie. Populäre Darstellung der handelspolitischen Streitfragen. Berlin: Buchh. Vorwärts. 1901. 8vo. pp. 96. 1 m.

#### *In Periodicals.*

CARNEGIE (A.). British Pessimism. Nineteenth Century, June. [British trade is not declining, but has reached its limit, having remained stationary for ten years.]

MORGAN-BROWNE (H.). But are we Decaying? Contemporary, June. [A reply to the anonymous article in the same review for May and June.]

UNSIGNED. The Economic Decay of Great Britain. I., II. Contemporary, May and June. [Extravagantly pessimistic.]

### VIII. MONEY, BANKING, CREDIT, AND PRICES.

AUPETIT (A.). Essai sur la théorie générale de la monnaie. Paris: Guillaumin. 1901. 8vo. pp. 295. 10 fr.

CARLILE (W. W.). The evolution of Modern Money. London and

New York: Macmillan. 1901. 8vo. pp. 372. \$2.50.

[In Part I. the evolution of the gold standard is traced, and the thesis is maintained that gold was the standard in Europe in the



seventeenth century and earlier, although not popularly recognized as such. In Part II. such subjects as the origin of money and the causes of its value are discussed.]  
**EEERSTADT (Rud.).** Der deutsche Kapitalmarkt. Mit statistischen Tabellen. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 286. 7 m.

[Separate chapters on industry, trade, commerce, the banks, land, and land-mortgage banks.]

**GESELL (Silvio).** Das Monopol der schweizerischen Nationalbank und die Grenzen der Geldausgabe im Falle einer Sperrung der freien Geldausprägung. Berne: K. J. Wyss. 1901. 8vo. pp. 42. 0.60 m.

**REICHSBANK,** die, 1876-1900. Jena: G. Fischer. 1901. 4to. pp. 496 and plate. 10 m.

**SCHULTE (Dr. Frdr.).** Die Entwicklung des Sparkassenwesens im Grossherzogtum Baden. Tübingen: J. C. B. Mohr. 1901. 8vo. pp. 94. 3.50 m.

[In Volkswirtschaftliche Abhandlungen der badischen Hochschulen, edited by C. J. Fuchs.]

\***WALSH (C. M.).** The Measurement of General Exchange Value. New York: Macmillan Co. 1901. 8vo. pp. 504.

[An important scholarly book. The main subject is the measurement of changes in general prices, involving an elaborate comparison of the different kinds of average, among which the geometric is chosen as correct. Appendices

review the questions of means and variations, compensatory variations, and methods of using the arithmetic mean; an elaborate bibliography, critically annotated, concludes the volume.]

# In Periodicals.

**CARLILE (W. W.).** The Indian Currency "Experiment." Econ. Rev., April. [The "Experiment" having been an absolute success, "what about the theoretical doctrines on which the predictions of failure were based?"]

**DUNKER (D. Rud.).** Geldersparende Zahlungsmethoden in dem heutigen Bankverkehr Deutschlands. Ann. des Deutsch. Reichs, 1901, Nos. 8 to 6.

**FLEISCHHAMMER (Dr. H.).** Centralisation im Bankwesen in Deutschland. Jahrb. f. Gesetzg., 25, Heft 2. [Traces causes and effects; and makes a comparison with English conditions.]

**LIMOUSIN (C. M.)** and others. La question monétaire, à propos de l'exposition de 1900. Rev. Int. de Sociol., pp. 265-289. 1901.

**ROSENDORFF (R.).** Die Goldprämienpolitik der Banque de France und ihre deutschen Lobredner. Jahrb. f. Nat. Oek., 21, Heft 5. [A valuable study.]

**WOOLSEY (T. S.).** Foreign Bonds as American Investments. Forum, May. [Suggests the "major factors which the investor will consider when he lends to a state."]

## IX. FINANCE AND TAXATION.

**BIGWOOD (G.).** Les impôts généraux dans les Pays Bas autrichiens. Louvain: Giele. 8vo. pp. 336. 6 fr.

**CHARTON (A. P.).** La réforme fiscale en France et à l'étranger. Paris: Guillaumin. 1901. 8vo. pp. 791. 12 fr.

**COUVERTOIS (M. L.).** Des crédits additionnels au budget de l'état. Paris: Larose. 1901.

**DESJARDINS (F.).** L'état actuel de

la législation financière. Paris: Berger-Levrault. 1901. 8vo. pp. 166. 2.50 fr.

[A summary of the principal acts and regulations of financial interest passed in France since 1880.]

**GUYOT (V.).** La question des sucres en 1901. Paris: Guillaumin. 1901. 18mo. pp. 160. 3 fr.

[A critical examination of the conditions of sugar production in

different European countries, with especial reference to the government bounties.]

RICHARD (Emil). Vorschläge zur Revision des Staatssteuergesetzes des Kantons Zürich. Zürich: A. Müller. 1901. 4to. pp. 179. 5 m.

ROCHE (J.). Les budgets du XIX<sup>e</sup> siècle et questions diverses. Paris: Flammarion. 1901. 8vo. 7.50 fr.

WHITTEN (R. H., editor). Taxation of Corporations in New York, Massachusetts, Pennsylvania, and New Jersey. Albany: University of State of New York. 1901. 8vo. pp. 108. 25 cts.

[Bulletin 61 of the New York State Library, giving the text of the statutes in the states mentioned, with a brief introductory summary by the editor.]

WIESER (F. v.). Die Ergebnisse und die Aussichten der Personaleinkommensteuer in Oesterreich. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 151. 3.20 m.

UNSIGNED. Die Verwaltung der öffentlichen Arbeiten in Preussen 1890 bis 1900. Bericht an Se. Maj. den Kaiser und König, erstattet von dem Minister der öffentlichen Arbeiten. Berlin: J. Springer. 1901. 8vo. pp. 339, plates, maps, and diagrams. 10 m.

#### In Periodicals.

ACKLAND (J.). The Revolution in the Incidence of Taxation. Contemporary, May. ["The most heavily taxed class" in England "are the middle class with moderate incomes."]

ADAMS (T. S.). The Financial Problems of Porto Rico. Annals Amer. Acad. Pol. and Soc. Sci., May. [Describes the system of

taxation under Spanish rule, the Hollander bill, and the conditions it is intended to meet.]

BUCHENBERGER. Die Steuerreform im Grossherzogthum Baden. Finanz-Archiv, 18, Band 1. [A summary account of these reforms, partly accomplished, partly (e.g., as to a property tax) still under deliberation; the whole movement showing the tendency away from "object" taxation and toward "subject" and income taxation.]

BULLOCK (C. J.). Direct Taxes and the Federal Constitution. II. Yale Rev., May. [Conclusion: "The Supreme Court in 1796 stated a simple historical truth when it declared that the framers of the Constitution contemplated poll and land taxes as the forms of direct taxation."]

LASPEYRES (E.). Statistische Untersuchungen zur Frage der Steuerüberwälzung, geführt an der Geschichte der preussischen Mahl- und Schlachtsteuer. Finanz-Archiv, 18, Band 1. [An elaborate paper, covering over 200 pages. Part I. of the investigation, here published, considers the effect of the abolition of these taxes in 1874-75, and finds that prices were affected in accord with theoretical expectation. The writer notes that the investigation is significant on the question of method in statistical and inductive inquiry.]

THOMAS (D. A.). The Coal Duty. Fortnightly, June. [A criticism by a coal-owner M.P.]

THIAN (W.). Zur Entwicklung der Etats für die Verwaltung der kaiserlich-deutschen Marine. Ann. des Deutsch. Reichs, 1901, Nos. 3 and 4. [Concluded; from Jan. 1, 1868, to the present time.]

#### X. HISTORY, BIOGRAPHY, AND DESCRIPTION.

BIGGAR (H. P.). The Early Trading Companies of New France. A Contribution to the History of Commerce and Industry in North America. Toronto: The Univer-

sity of Toronto. 1901. 8vo. pp. 310. \$4.

[Announced as "a complete history of early French colonizing effort in America based upon an

examination of all the available material, manuscript and otherwise"; with an elaborate appendix enumerating and criticising the sources.]

DES MAREZ (G.). La lettre de foire à Ypres au XIII<sup>e</sup> siècle. Contribution à l'étude des papiers de crédit. Brussels: Lamertin. 1901. 8vo. pp. 292.

GLEYSROSE (F.). Petruclia-Peyrusse. Histoire politique, administrative, économique, et sociale d'une commune française. Paris: Giard et Brière. 1901. 8vo. 5 fr.

JÖHR (Dr. Adf.). Jean Herrenschwand. Ein schweizer. Nationalökonom des 18 Jahrhunderts. Berne: K. J. Wyss. 1901. 8vo. pp. 78. 1 m.

[No. 13 in Oncken's Berner Beiträge zur Geschichte der Nationalökonomie.]

PETRENZ (Dr. Otto). Die Entwicklung der Arbeitstellung im leipziger Gewerbe von 1751 bis 1900. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 97. 2.20 m.

[In Schmoller's Forschungen.]

POHLE (Dr. Ludw.). Die neuere Entwicklung des Kleinhandels. Dresden: V. Zahn & Jaensch. 1901. 8vo. pp. 62. 1 m.

[Author is Privat-Dozent. From Jahrbuch der Gehe-Stiftung. "Eine ganz vortreffliche kleine Schrift, die in knappen Zügen ein klares, wohlgegliedertes Bild in den gegenwärtig im Kleinhandel bevortretenden Tendenzen entwirft."] ]

RAUCHBERG (Prof. Dr. Heinr.). Die Berufs- und Gewerbebezahlung im Deutschen Reich vom 14. v. 1895. Berlin: C. Heymann's Verl. 1901. 8vo. pp. 458. 8 m.

SCHERER (Dr. J. E.). Beiträge zur Geschichte des Judenrechts im Mittelalter, mit besonderer Betrachtung auf die Länder der österreichisch-ungarischen Monarchie. Leipzig: Duncker & Humblot. 1901. 8vo. pp. 601. 15 m.

[Vol. I. Die Rechtsverhältnisse der Juden in den deutsch-österreichischen Ländern. Mit einer Einleitung über die Principien der

Judengesetzgebung in Europa während des Mittelalters.]

TIMES (London). The Financial Half-year. London: The Times Office. 1901.

[A new series, to appear every half-year, carefully compiled with very full information and concise summary of the feature of the half-year at the head of each division.]

VILLAIN (G.). La fer, la houille, et la métallurgie à la fin du XIX<sup>e</sup> siècle. Paris: Colin. 1901. 12mo. pp. 342.

UNSIGNED. Schweiz, die industrielle und kommerzielle, beim Eintritt ins XX. Jahrhundert. Zürich: Polygraphisches Institut. 1901. Fol. pp. 84 and illustrations. 4 m.

[In 10 issues. First issue.]

# In Periodicals.

BELOW (G. v.). Der Untergang der mittelalterlichen Stadtwirtschaft (über den Begriff der Territorialwirtschaft). Jahrb. f. Nat. Oek., 21, Hefte 4 und 5. [An argument against Schmoller's conception: Territorialwirtschaft. The "Stadtwirtschaft unter städtischer Leitung" of the Middle Ages gave way to the "Stadtwirtschaft unter Landesherlicher Leitung," which lasted from the sixteenth century to the eighteenth.]

BINDLOSS (H.). Nigeria and its Trade. Monthly Rev., June.

BUXTON (S.). Mr. Gladstone as Chancellor of the Exchequer. Fortnightly, May. [Second and concluding article.]

CARO (G.). Die Grundbesitzverteilung in der Nordostschweiz und angrenzenden alamannischen Stammesgebieten zur Karolingerzeit. Jahrb. f. Nat. Oek., 21, Heft 4. [Based on a study of the "S. Galler Traditionsurkunden." Author is Privat-Dozent in Zürich. A preliminary publication of results.]

ENHERAUD (F.). Les petites industries paysannes. La dentelle aux fuseaux en Normandie. Musée social, May.

- LECARPENTIER (G.). L'industrie colonnière française et les débouchés coloniaux. *Annales des Sci. Pol.*, 382-379. 1901.
- LEIGH (J. G.). Life in Manufacturing Towns of Lancashire and Yorkshire. *Econ. Rev.*, April.
- LEVY (R.-G.). Les finances chinoises. *Rev. des Deux Mondes*, May 1. [Contains interesting information about Chinese currency, banks, taxes, loans, expenditures, natural resources, etc.]
- MALLOCK (W. H.). The Father of English Economics. *National Rev.*, June. [Suggested by Prof. Hull's recent edition of Petty.]
- MARDEN (E. J.). Trade and the Administration in British East Africa. *Monthly Rev.*, May.
- SAYOUS (A. E.). La spéculation sur les fanons et l'huile de baleine en Hollande au XVII<sup>e</sup> siècle. *Mem. de l'Acad. des Sci. mor. et pol.*, Feb., 1901.
- . La spéculation dans les pays-bas au XVI<sup>e</sup> siècle. *Journ. des Econ.*, June.
- SCHULLERN - SCHRATTENHOFEN (Prof. H. v.). Ergebnisse der über den börsenmässigen Terminhandel in landwirtschaftlichen Produkten in Oesterreich abgehaltenen Enquête (1900). *Jahrb. f. Nat. Oek.*, 21, Heft 3.
- SIEGFRIED (A.). Le développement économique et social du Japon. *Musée social*, March. [Notes of an observant traveller upon the growth of manufactures and the conditions of the working people in Japan.]
- WILSON (E. C.). John Woolman: A Social Reformer of the Eighteenth Century. *Econ. Rev.*, April.
- YAN' KERAVIC. The Demands of French Miners on the Pas-de-Calais. *Econ. Rev.*, April. [The strikes of 1891 and 1893.]

## XI. STATISTICS.

- CAUWES (A.). Des rapports du mariage avec la nationalité. Paris: Larose. 1901. 8vo. 6 fr.
- STEFAN (Emil). Atlas des Assurances. Geographischstatistische Darstellung der Entwicklung des Versicherungswesens aller Staaten und Branchen, 1885-1893. Vienna: Freytag & Berndt. 1901. Fol. pp. 63 and 161, colored diagrams and 3 maps. 60 m. [Text in French.]

*In Periodicals.*

- CONANT (Luther). Industrial Consolidations in the United States. *Public. Amer. Statist. Assoc.*, March. [A careful statistical summary of the movement since 1887, with lists of the enterprises and their capitalization, and some consideration of the effect of general industrial conditions.]

## XII. REPRINTS, TRANSLATIONS, AND NEW EDITIONS.

- KAIZL (Dr. Jos.). Finanzwissenschaft. Vienna: Manz. 1901. 8vo. pp. 281. 3.50 m. [Part II., translated from the Bohemian by Dr. Alvis Körner.]
- NOVICOW (J.). Die Föderation Europas. Berlin: Akadem. Verlag. f. sociale Wissenschaften. 1901. 8vo. pp. 738. 6 m. [Translated by A. H. Fried.]

## XIII. NOT CLASSIFIED.

BIGOURDAN (M. G.). *Le système métrique des poids et mesures.* Paris: Gauthier - Villars. 1901. 8vo.

[A short history of the metric system in different countries by an official in the Paris observatory.]

BLELOCH (W.). *The New South Africa, its Value and Development, with Illustrations, Maps, and Diagrams.* London: Heinemann. 8vo. 10s.

[Full of information, clear and thoughtful.]

CLOW (F. R.). *Commerce. A Book for Schools, with preface by Prof. F. W. Taussig.* New York: Silver, Burdett & Co. 1901. 12mo.

[Designed for use in secondary schools, with suggestions for teachers, questions, and similar apparatus. "Commerce" includes money, banking, and all the mechanism of exchange. The book is an interesting experiment in the extension of the teaching of economics. The author is teacher in the Wisconsin Normal School at Oshkosh.]

DEMOLINS (E.). *Comment la route crée le type social. Les routes de l'antiquité.* Paris: F. Didot. 1901. 18mo. pp. 462. 3.50 fr.

[An essay in social geography; the general thesis being that the character of the routes of communication, along rivers or coasts, or across continents, have been the decisive factors in moulding national character.]

DURKHEIM (E., editor). *L'année sociologique. Quatrième année, 1899-1900.* Paris: Alcan. 1901. 8vo. pp. 628. 10 fr.

[Besides "mémoires originaux," this contains more than 600 pages of analyses and reviews covering a wide field.]

EDOM (H.). *Traité théorique et pratique de comptabilité.* Lyons: A. Storek. pp. 700. 12 fr.

[A text-book, designed for use in the écoles supérieures de commerce, covering: I. Notions de commerce; II. Comptabilité com-

merciale; III. Comptabilité appliquée aux sociétés en nom collectif, et comptabilité industrielle; IV. Partie financière, — poids et monnaies, changes et arbitrages, maisons de banque, opérations de bourse.]

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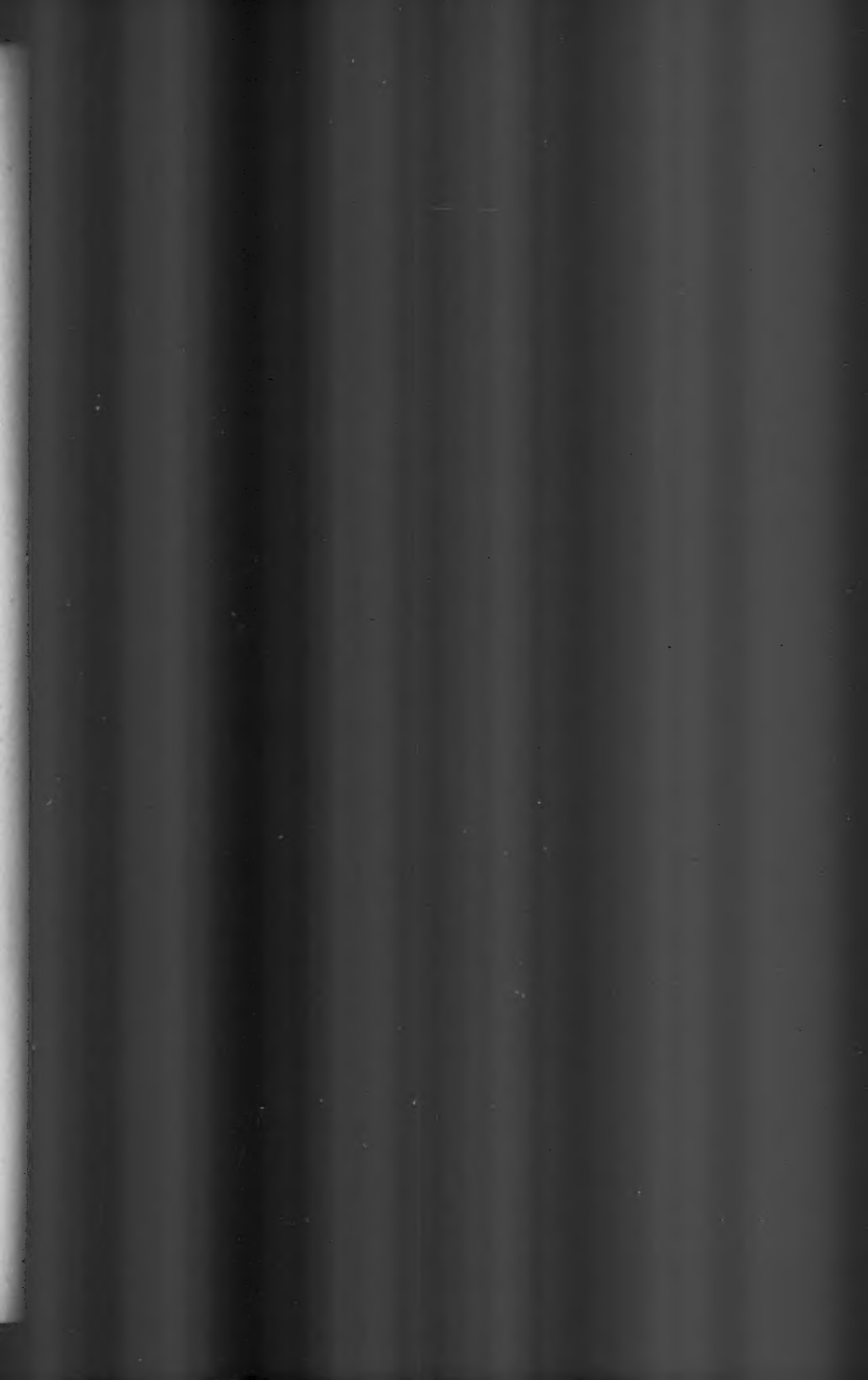
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